FINANCIAL HISTORY

THE MAGAZINE OF THE MUSEUM OF AMERICAN FINANCE

SPECIAL 25th ANNIVERSARY EDITION

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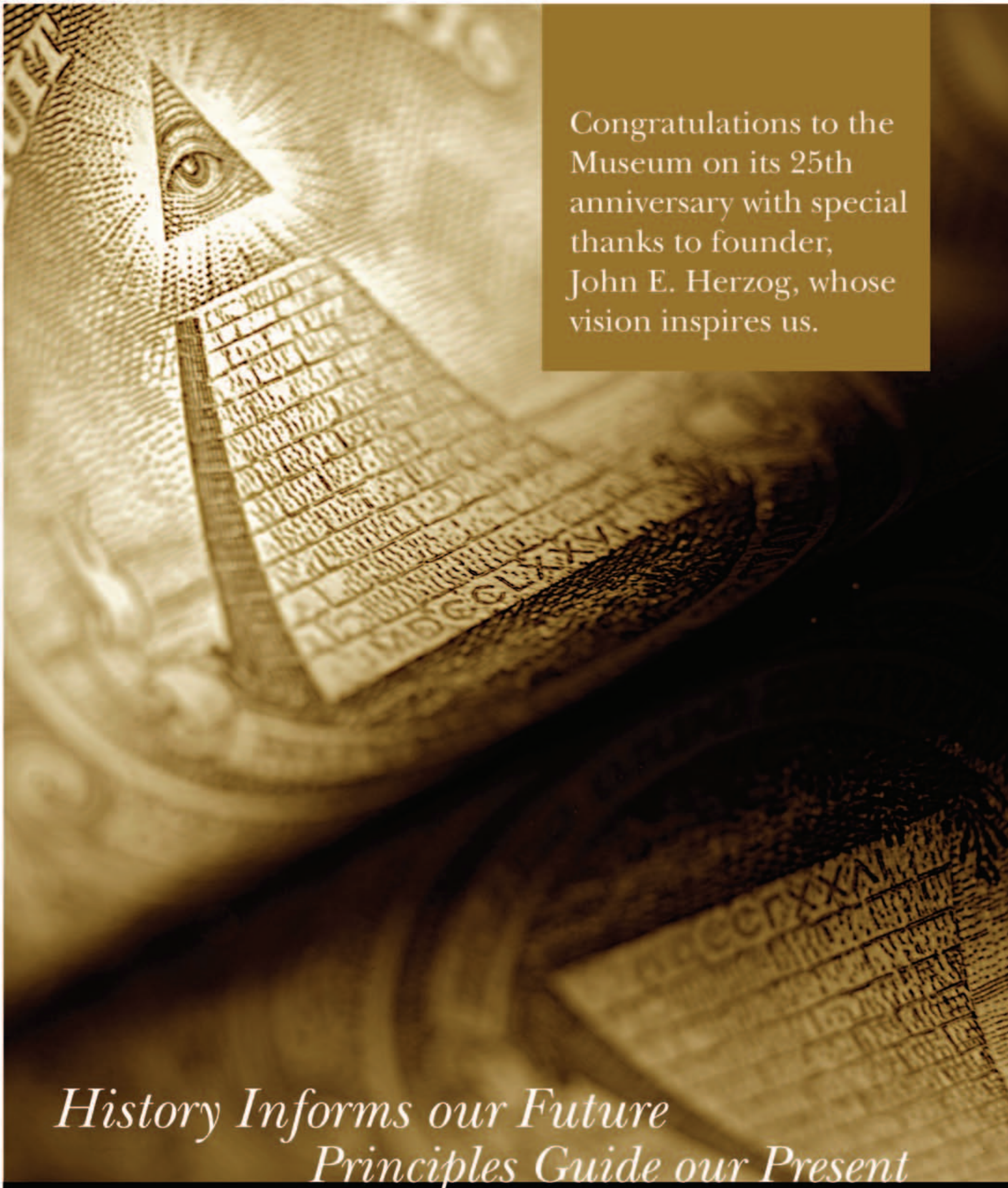

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THE MAGAZINE OF THE MUSEUM OF AMERICAN FINANCE

in association with the Smithsonian Institution

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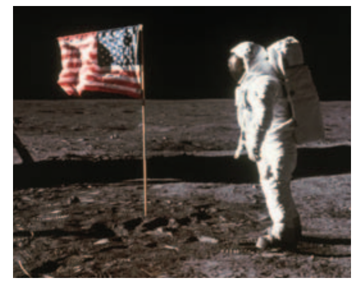
Kristin Aguilera
Editor

IN THIS ISSUE FEATURES



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IN THIS ISSUE DEPARTMENTS

ON THE COVER

Montage of images from the Museum's first 25 years. Photo credits: Alan Barnett and Elsa Ruiz.

Founder's Letter

John E. Herzog | Chairman and Trustee *Emeritus*

On the occasion of the Museum's 25th anniversary, I recall here the history of the Museum from my perspective as founder. This column is based on the talk I recently delivered to an alumni group at my 55th anniversary reunion at Cornell University.

The Origins of the Museum of American Finance

When I thought about telling the story of the Museum, a book came to mind that I recently read, called *Where Good Ideas Come From*, by Steven Johnson. He talks about the slow development of good ideas in encouraging environments, and I want to share the background of the Museum with you in that context.

I have been a collector all my life, and there's no recovering from that; it only gets worse as you get older. I was the CEO of a major Nasdaq market making firm, and also the chairman of R. M. Smythe, a company that provided obsolete securities research since 1880 and later held auctions of antique stock certificates, autographs, bank notes and other items. And I have loved history—especially American history—since childhood.

I started my own collection of certificates in 1959, when I left Eastman Dillon to join my father's trading firm, Herzog & Co., Inc. In the early days, when money was scarce, I wanted to be sure I would be able to sell the objects if I decided to stop collecting. I hit on financial documents from the American Revolutionary period, since many were signed by well-known historical figures and a market for them was well established. This turned out to be a very good idea.

My day job in the trading business was slow, but steady, and the firm grew nicely, always expanding our market-making activities. By 1987, we were making markets in thousands of stocks, large and small. On the day of Crash, October 19, I was in our trading room and part of the incredible confusion and pandemonium of that moment. Everyone was yelling, markets were wild and rapidly declining, and there was a sense of sheer exhaustion. The following morning, I woke to the National Public Radio announcer talking about the yen-dollar ratio. My thought was, so what? We had just lost about a quarter of the stock market value in one trading day! I realized then that Americans needed help understanding the capital markets.

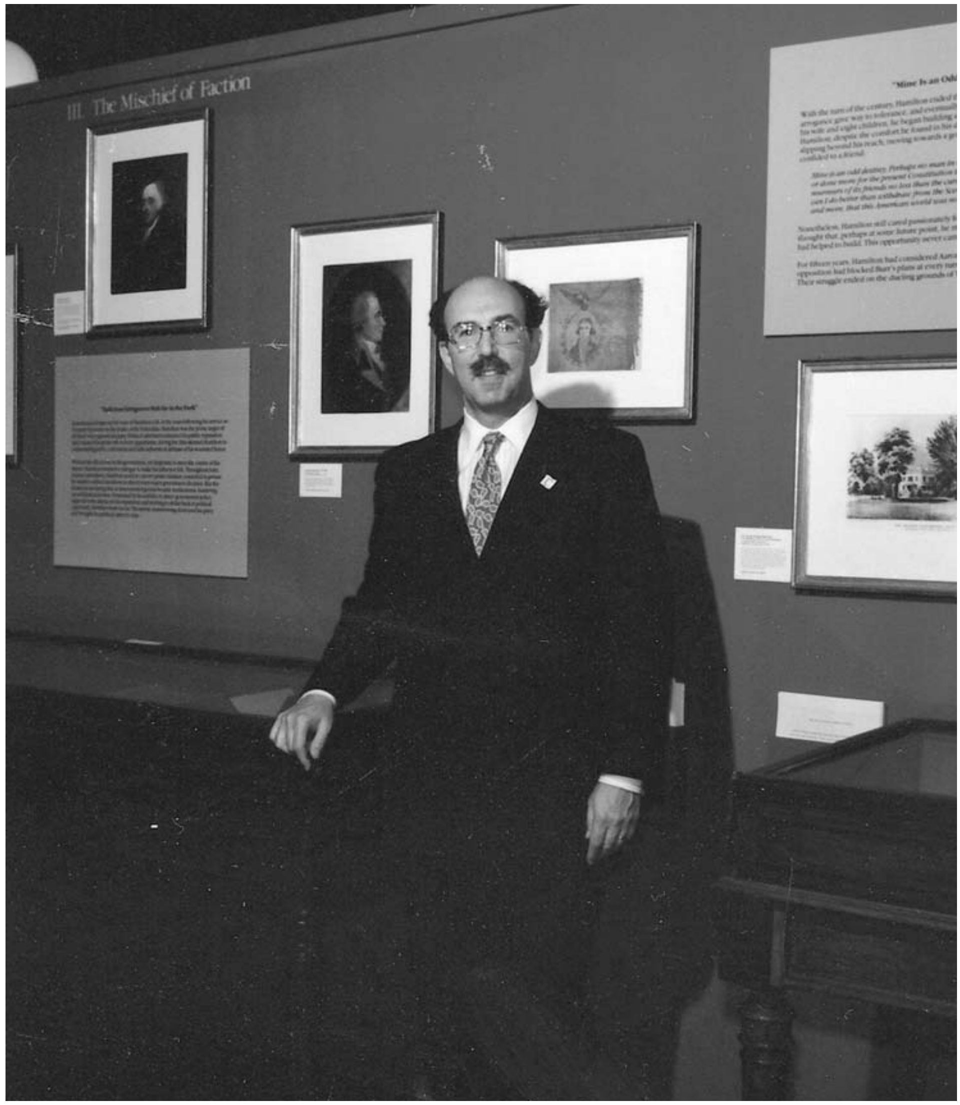
I knew my collection contained some splendid pieces, and I thought putting them up for all to see would generate interest in the history behind them. I had worked my way through the possibility of failure, realizing it would be easier to start the Museum then and fail than it would be to explain years later why I had not tried it when the opportunity presented itself. At the time I was a director of the Securities Industry Association (SIA), and I wrote to the other members asking for objects to include in the first exhibit, or a check to underwrite it. A few days later, I got a call from Peter Kellogg's office saying he thought it was a great idea, and he was sending a check. That was terrific news, and I was very pleased.

The first exhibit, held in the Custom House at the foot of Broadway, was a retrospective beginning with English pieces from the early 18th century, followed by Colonial bonds and currency, Revolutionary War bonds, and documents illustrating the 19th and early 20th century American experience up to the Liberty Bond drives of World War I.

About 1,000 people visited that exhibit, and the reaction was positive. When the exhibit closed, several people encouraged me to continue, and so I did. A suggestion was made to create an exhibit on Alexander Hamilton, to open on the bicentennial of his appointment as first Secretary of the Treasury, in September 1989. It was June,

Alan Barnett

John Herzog speaks at the Museum's opening ceremony at the US Custom House.



Museum founder John Herzog at the "Alexander Hamilton: First Secretary of the Treasury" exhibit, 1989.

so there wasn't much time to prepare. I had some Hamilton material and started to work on what was the first exhibit in America commemorating Hamilton's contributions to the founding of the nation. I called Joanne Freeman, a doctoral student at the Library of Congress where the Hamilton papers are housed, and learned that she had designed an exhibit for the US Treasury that had not been displayed and could be available. When I heard that, I said "Okay, sold." I knew I could rely on her scholarship, and all I had to do was raise the money, about $50,000.

The exhibit opened on time, with a ceremony featuring some notable speakers and the Fort Hamilton marching band from Brooklyn. About 6,000 people saw it, and the exhibit got favorable press. That was a great feeling, and, encouraged by the momentary success we had achieved, I made the decision to carry on with the project. I applied for tax-exempt status for the Museum, which was granted with a provisional charter that year (the Museum's absolute charter was granted a few years later, by the New York State Board of Regents). I hired an assistant to attend to all the Museum issues, and I continued being the CEO of Herzog Heine Geduld.

As the Museum developed and grew, we realized it needed its own physical space. This was obtained by using a small entry area the trading firm was not using, which was only about 250 square feet. One of the first exhibits in that space was called "America, Money and War," and it told the story of financing the Civil War for the first time. The exhibit was beautifully researched and presented by Douglas Ball, a nationally-recognized numismatist.

At the time, I often acted as a host for visiting Congressional staff members who would take a one-day trip to Wall Street to learn about finance. After our discussions, I would suggest they exit through the Museum gallery. These were banking committee staff members, and they were astounded when they saw the objects in the exhibit. They had no idea where their origins were, and I realized then that a lot of help was needed to give people background in the area of finance, and to bring Americans to a closer understanding of our capital markets — the best in the world by far.

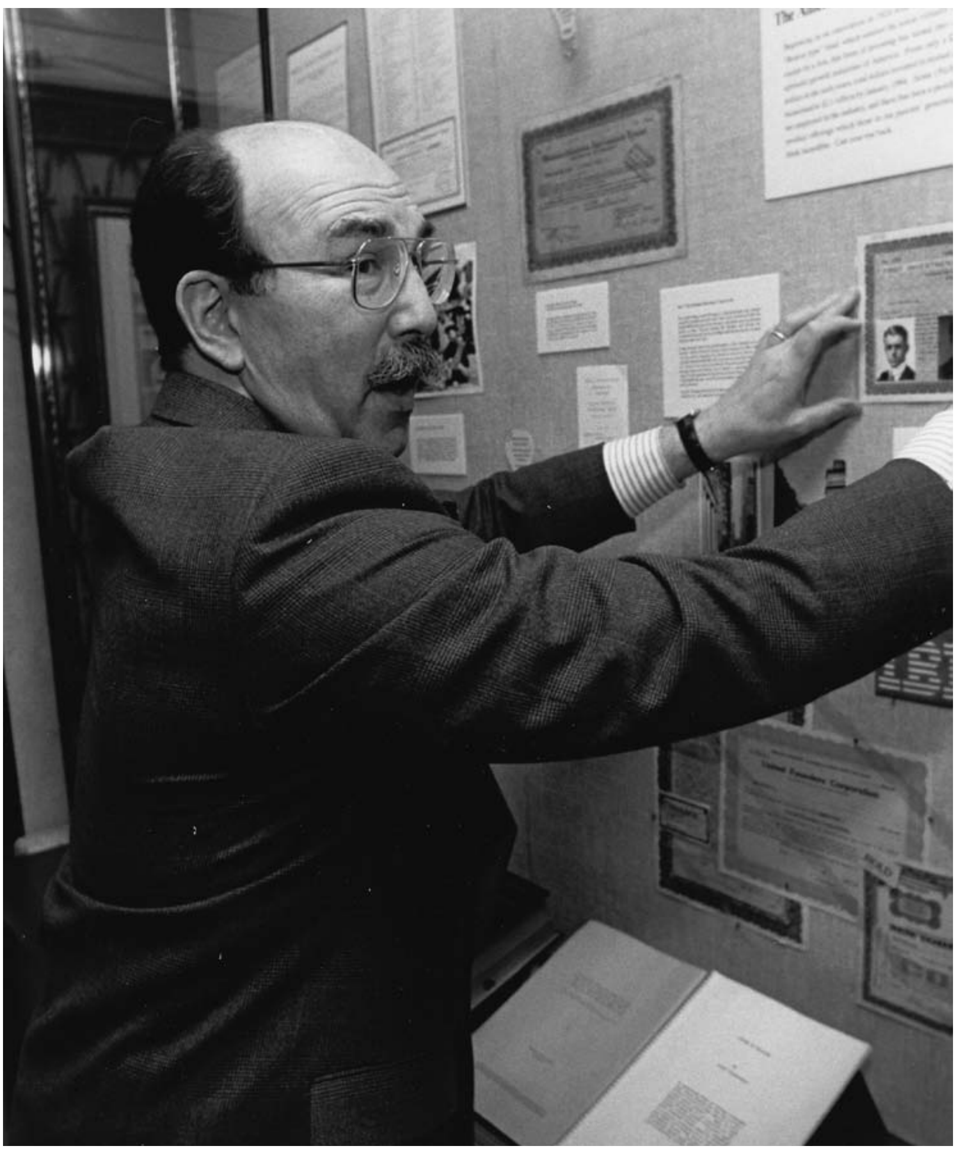
The Museum carried on, mounting exhibits on the railroads, the Erie Canal, John D. Rockefeller and the debt instruments issued by the new states during the Revolution. We were doing nicely and learning a lot, and then September 11th happened. Ours was the museum closest to Ground Zero. It was a terrible blow, with few visitors for months, and we weren't sure what to do. The Museum organized the first conference for downtown businesses to speak about their plans, but there weren't many optimistic reports. Very slowly, things came back to life, and we persevered.

The Board of Trustees realized there was a need for larger and more prominent space, and in 2008 the Museum opened in an ideal location — the former headquarters of the Bank of New York at 48 Wall Street. Founded by Alexander Hamilton and the first bank in the city, the space is beautiful and has splendid murals depicting important moments in the nation's financial history.

The Museum is now approaching its fifth anniversary in the new space, as it opened January 11, 2008, on Hamilton's birthday. In addition to permanent exhibits on the financial markets, money, banking, entrepreneurship and Alexander Hamilton, it offers a timely program of rotating exhibits including "Women of Wall Street," "Scandal: Financial Crime, Chicanery and Corruption that Rocked America" and "Checks & Balances: Presidents and American Finance." The "Tracking the Credit Crisis" exhibit has provided visitors with necessary information on the recent financial crisis, and the accompanying poster set has enabled classroom discussions around the country.

The Museum became a Smithsonian Affiliate early on, and as such is able to borrow objects from their collection. Currently on loan from the Smithsonian's

Reporters cover the Museum's move to 24 Broadway, 1992.



John Herzog works on the "70 Years of American Mutual Funds" exhibit, 1994.

National Museum of Natural History is an 18-karat gold Monopoly set. The opening day events, including a Museum-wide Monopoly contest for middle school students, were covered by more than 65 press outlets. The Museum currently welcomes upwards of 500 school groups each year, and I sometimes tap students on the shoulder and ask where they are from. The answers: North Dakota; Silver Springs; Honolulu; the South Bronx; Stratford, England and everywhere in between. In addition to its tour programs, the Museum offers 10 classes as part of its Center for Financial Education and last year launched the Museum Finance Academy, a personal finance certificate program for local high school juniors and seniors.

The Museum also hosts dozens of important events, including the first panel discussion about the intersection of finance and the environment, in partnership with The Sierra Club, as well as talks and symposia featuring such prominent speakers as Paul Volcker, Jack Bogle, David Walker, Duncan Niederauer, Bill Donaldson, Niall Ferguson and Abby Joseph Cohen, to name a few. At the annual gala, the main fundraising event, the Museum honors someone who has made a meaningful contribution in finance as well as public service, presenting the honoree with the John C. Whitehead Award for Distinguished Public Service and Financial Leadership.

After 25 years, which will come along on October 19 — the anniversary of the Crash — I will become an *Emeritus* Trustee. I will continue my involvement helping to advise new international finance museums, as other nations realize how very great the benefits of explaining these seemingly arcane finance phenomena can be. For the development of a middle class in nations experiencing democratic capitalism for the first time, it is actually essential, and this realization should work out to some interesting trips for Diana and me.

Seeing the immense satisfaction on people's faces as they begin to understand what the Masters of the Universe take for granted is extremely gratifying, and what I have hoped to accomplish all these years. It has been a terrific ride, and it has been a great privilege for me to tell you this story. $

WALL STREET COLLECTORS BOURSE II

"MEMORABILIA OF FINANCE" and the "INAUGURAL ANNIVERSARY CELEBRATION OF LEADING GLOBAL COMPANIES"

AT THE MUSEUM OF AMERICAN FINANCE
OCTOBER 18–20, 2012

Dates and Times:
Thursday, Oct. 18th, Noon to 8pm
Friday, Oct. 19th, 10am to 4pm
Saturday, Oct. 20th, 10am to 3pm

Place:
Museum of American Finance
48 Wall Street, New York City

For Bourse and Anniversary information
John Herzog
info@wallstreetbourse.com
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THE WALL STREET BOURSE—WHERE FINANCE MEETS HISTORY

Museum Observes 25th Anniversary With Thought Leadership Symposium

Message to Members

David J. Cowen | President and CEO

This month marks a significant milestone in financial history, as well as the Museum's own history, as we observe the 25th anniversary of the Crash of 1987 and the founding of the Museum. The market crash on October 19, 1987 and the media's response in the tumultuous weeks that followed emphasized to finance professional and historical document collector John Herzog the general lack of knowledge about financial history, and inspired him to found the Museum (see article, page 4).

To mark this important occasion, the Museum has organized a thought leadership symposium, to be held at the New York Stock Exchange on October 19, where senior level financial executives and industry association leaders will gather to discuss solutions for re-establishing the financial industry's credibility amongst the investing public. It is an increasingly-important topic at a time when the words "finance" and "banking" have developed negative connotations, and the public has become skeptical of the importance of financial services and innovation.

In this special 25th anniversary edition of *Financial History*, two of the keynote speakers from our anniversary event, Duncan Niederauer and Jack Bogle, as well as two other members of the Museum's Advisory Board, William Harrison and Henry Kaufman, have provided their thoughts on lessons from the past 25 years and the future of finance in the collection of essays entitled "Restoring the Faith of Investors" (see page 17).

Also in this issue, our chairman, Dr. Richard Sylla, explains the power of finance and the relevance of financial history in our everyday lives (see article, page 24). He provides a rationale for finance museums throughout the world, and the Museum of American Finance in particular, and reveals why today — 25 years after its founding — the Museum's mission is more important than ever. $

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Daily News headline from the Crash of 1987.

OCT 1896 The Dow Jones Industrial Average (DJIA) begins continuous daily publication.

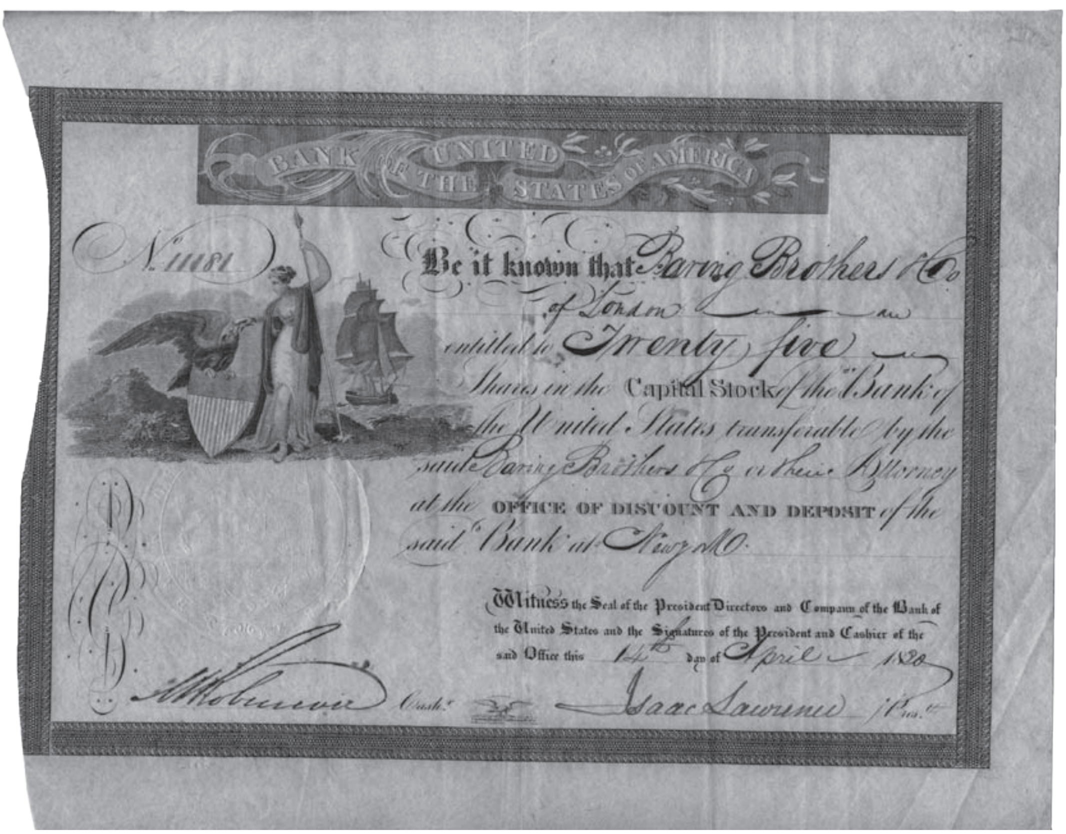
OCT 19 1987 The Crash of 1987 occurs, as the Dow loses 508 points, or 22.6%, to close at 1738.74. By day's end, analysts predict a severe recession.

Barings Bank Exhibition Provides Visitors With Interactive Investment Experience

In 1817, the French Duc de Richelieu famously commented that the six great powers in Europe were "England, France, Prussia, Austria, Russia — and Baring Brothers." From its founding in the 18th century to its unforeseen demise in the 20th, Barings Bank provided investment capital to some of the most famous ventures in history. From financing the Louisiana Purchase in 1803 to underwriting Argentinean debt in the 1880s, however, Barings saw its share of both tremendous gains and miscalculated debacles. After an employee lost £827 million ($1.3 billion) of the bank's money, Barings collapsed in 1995, existing now, in part, as an archive of one of the most esteemed and important banks in history.

The Museum's upcoming interactive exhibit will provide engaging details about Barings' significant US investments and their involvement in, and contributions to, the growth of the nation. Opening on November 8, 2012, the exhibition invites visitors to participate in five of the bank's investments in America. With unprecedented access to the Baring Archive, visitors will use the same documents used by Barings to evaluate each historic investment. Based on information provided in the exhibit, visitors will compete by deciding whether to invest in each venture. They will also be able to evaluate their own investment performance against the bank's real historical results.

ING is the lead sponsor of this exhibit. Associate sponsors include Bank of America Merrill Lynch, Citibank, Ernst & Young and Sullivan & Cromwell LLP. $



Museum of American Finance

Certificate for shares in the Second Bank of the United States owned by Baring Brothers of London, April 1830.

NOV 5 1999 US District Court Judge Thomas Penfield Jackson finds that Microsoft is a monopoly, and the US Justice Department plans to enforce the breakup of the company.

NOV 12 1999 President Bill Clinton signs into law the Gramm-Leach-Bliley Act, or the "Financial Services Modernization Act," which essentially repeals the Glass-Steagall Act of 1933.

MU$EUM OF AMERICAN FINANCE

UPCOMING EVENTS CALENDAR

Oct 11 Lecture/Symposia Series: Janet Wallach on *The Richest Woman in America: Hetty Green in the Gilded Age.* 5:30 – 7:00 p.m. Presentation followed by Q&A, book signing and reception. Members and students free; non-members $15.

Oct 18–20 Event of Interest: Wall Street Collectors Bourse II. Admission to the Museum FREE all days.

Oct 24 Walking Tour: Titans of Industry. 11:00 a.m. – 12:30 p.m. $15 includes admission to Museum and Lunch and Learn with Gino Francesconi.

Oct 24 Lunch and Learn Series: Gino Francesconi on "Andrew Carnegie and Carnegie Hall." 12:30 – 1:30 p.m. $5 includes Museum admission.

Oct 25 Lecture/Symposia Series: Neil Barofsky on *Bailout: An Inside Account of How Washington Abandoned Main Street While Rescuing Wall Street.* 5:30 – 7:00 p.m. Presentation followed by Q&A and reception. Members and students free; non-members $15.

Oct 27 25th Anniversary Great Crashes Tour. 1:00 – 4:00 p.m. $15 includes Museum admission.

Nov 1 Lunch and Learn Series: Joe Carlen on "The Test of Time: Ben Graham in 2012." 12:30 – 1:30 p.m. $5 includes Museum admission.

Nov 3 Walking Tour: Wall Street History from the Dutch to Today. 1:00 – 2:30 p.m. $15 includes Museum admission.

Nov 8 Barings Bank exhibit opens.

For information and reservations, please contact Tempris Small at 212-908-4110 or tsmall@moaf.org.
Visit our website at www.moaf.org/events for additional events and tours.

CORPORATE AND FOUNDATION SUPPORT

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► For information about supporting the Museum's activities and programs, please contact Jeanne Baker Driscoll, Director of Development, at 212 908-4694 or jdriscoll@moaf.org.

NOV 15 1971 The money-market mutual fund is born as the prospectus for the Reserve Fund, created by Bruce Bent and Henry Brown, becomes effective.

NOV 17 1999 For the first time, more than 1.5 billion shares change hands on the Nasdaq in a single day, as the day's total volume hits 1.646 billion.

Adventures on Wall Street: Finance and Industry in American Dime Novels

By Franklin Sammons and Sarah Buonacore

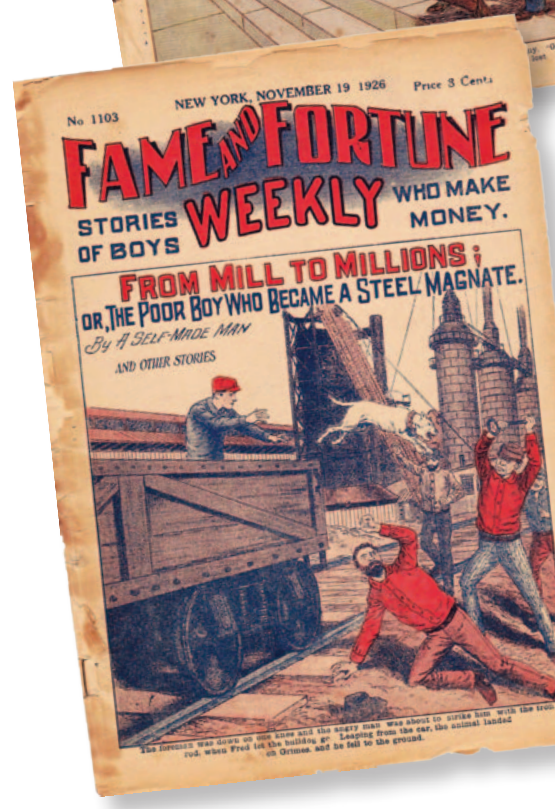
"Dime novel" is a catch-all term for late 19th century and early 20th century American popular fiction. Providing Americans with a consistent output of popular fiction at a fixed, inexpensive price, these weeklies are the antecedents of modern day mass market paperbacks, comic books and even television series. The term itself is thought to have originated with the first book in Beadle & Adam's *Beadle's Dime Novel* series, *Maleaska, the Indian Wife of the White Hunter*, by Ann S. Stephens, published in 1860. First printed in orange wrapper papers, the early dime novels focused on encounters between Native Americans and backwoods settlers. By the 1890s, however, their themes broadened and their covers transformed into one of the defining characteristics of dime novels: the dramatic, often lurid, colored cover illustrations depicting a hero in action.

The Museum's collection consists of more than 80 dime novels with financial and industrial themes and includes issues from *Fame and Fortune Weekly*, *Pluck and Luck*, *Work and Win*, *Secret Service*, *New Nick Carter Weekly* and *Tip Top Weekly*. Many of these dime novels chronicle the "rags to riches" journeys of honest and hardworking boys who often acquire their "fame and fortune" by outwitting avaricious and unscrupulous characters or by fighting against financial corruption.

Dime novels were aimed primarily at urban, working class adolescents and were distributed at newsstands and dry goods stores. Their popularity both benefitted from and reflected an American mass culture developing at the turn of the 20th century due to the expanded mechanization of printing, the increased efficiency of railroad and canal shipping, and the growing literacy of working class Americans. While the most popular dime novel stories were those of adventures set in the Wild West, the genre also included tales of urban outlaws and self-made men, of crime fighting detectives and even costume romances.

The physical nature of dime novels made them easily disposable commodities, and they are now relatively rare. Averaging 64 pages with typical dimensions that were pocket-sized, the novels were small and cheap, so the typical reader did not save them. The books also were made of pulp-wood paper, which has a high acidity level and disintegrates quickly. As a consequence, only a fraction of the millions of issues printed by dime novel publishers remain today.

The collection of financial and industrial themed dime novels affords researchers an opportunity to explore representations of Wall Street, finance and industry in early 20th century American popular culture. Scholars have plumbed the social and cultural significance of dime novels broadly, but very little — if any — attention has been given to dime novels with



NOV 17 1999 For the first time, more than 1.5 billion shares change hands on the Nasdaq in a single day, as the day's total volume hits 1.646 billion.

DEC 1949 The Chicago Stock Exchange, the Minneapolis-St. Paul Stock Exchange, the Cleveland Stock Exchange and the St. Louis Stock Exchange merge to form the Midwest Stock Exchange.

explicit financial themes and characters. Of course, many of the people and storylines in these titles share the derivative and formulaic characteristics of dime novels and other mass produced literature designed to reach a wide audience. Nevertheless, the collection is an incredibly rich and overlooked source for examining popular representations of and attitudes toward banking, the stock market, Wall Street and other features of American capitalism in the early 20th century. $

Sarah Buonacore is currently studying for her master's degree in Museum Studies at NYU. Franklin Sammons recently completed his MA in history at the University of Georgia, where he studied the cultural and economic history of the US, particularly the intertwined histories of slavery and capitalism. Sarah and Franklin are both Graduate Collections & Archives Interns at the Museum.

Sources

"Dime Novels and Penny Dreadfuls" http://www-sul.stanford.edu/depts/dp/pennies/

"Dime Novels." American Treasures of the Library of Congress. http://www.loc.gov/exhibits/treasures/tri015.html

Hoppenstand, Gary, ed. *The Dime Novel Detective*. Bowling Green, OH: Bowling Green University Press, 1982.

Smith, Erin A. "Pulp Sensations." In *The Cambridge Companion to Popular Fiction* edited by David Glover and Scott McCracken. Cambridge: Cambridge University Press, 2012.

DEC 1974 The Crash of 1973–74 hits rock-bottom, as the DJIA closes at 577.60, down 45.1% from its high of January 1973.

DEC 1835 A fire rages through Lower Manhattan, destroying the New York Stock & Exchange building. A strongbox containing important Exchange documents is rescued from the flames by a broker.

DEC 18 1985 The US House of Representatives approves the Tax Reform Act of 1986.

Turning a Yankee Liability into an Asset: Selling New England Ice in India, 1833–1880

By Dan Cooper and Brian Grinder

> *"He who gives back at the first repulse and without striking the second blow, despairs of success, has never been, is not, and never will be, a hero in war, love, or business."*
>
> — Frederic Tudor, 1805

During an MBA oral exam this past summer, I (Brian) asked the student under fire to imagine himself in Boston in 1833 where he meets an individual who wants to load a ship with ice cut from local ponds, transport it to Calcutta, India, and sell it. "What advice would you give this person?" I asked. The student thought for a moment, surmised that the ship would have to be wind powered, and asked how long it would take to travel from Boston to Calcutta in a ship under sail. "About four months," I replied, "and remember, since there was no Suez Canal in 1833, the ice would have to be transported across the equator and around the southern tip of Africa." The student responded, "I would advise him not to do it because the ice would melt before it got there."[1]

As others in the room listened in astonishment, I told the student how Fredric Tudor successfully sent New England ice to India in 1833 on an unrefrigerated sailing vessel. The success of his Indian venture came at a fortuitous time for Tudor, who owed over $200,000 to his creditors and was in danger of being sent to debtor's prison again.[2]

Tudor's first ice trading venture in 1806 was met with derision by a reporter from the *Boston Gazette*, who wrote, "No joke. A vessel with a cargo of 180 tons of ice has cleared out from this port for Martinique. We hope this will not prove to be a slippery speculation."

Although Tudor's ice survived the trip, poor planning resulted in a loss of between $3,000 and $4,000. Undaunted, Tudor began experimenting with ice house designs, had an ice house built in Havana, Cuba, and sent his first shipment of ice there in January of 1807. In late 1807, he decided to go to Cuba himself and build an improved ice house, but before the ice house was completed, the Embargo Act of 1807 went into effect putting a halt to Tudor's ice business for the next two years.

The War of 1812 interrupted business again, but Tudor pressed on in spite of constant harassment from his creditors. After the war, he expanded into Charleston, SC; Savannah, GA; and New Orleans, LA. The New Orleans expansion was especially successful. Tudor, hoping to sell an average of $10 of ice a day during his first season in New Orleans, was overjoyed when his brother Harry reported daily sales averaging $40 a day. After 15 years of setbacks, disappointments and frustration, the business had finally reached a turning point.

Shortly after receiving the good news from New Orleans, Tudor suffered a nervous breakdown. The signs of increasing stress were evident in Tudor's daily diary entries, which often included the word "ANXIETY" written in bold capital letters. Fortunately, Tudor's brother-in-law, Robert Gardiner, stepped in and skillfully managed the business while Tudor recovered. The ice business also received a much-needed shot in the arm when Tudor hired Nathaniel Jarvis Wyeth in 1826.

Wyeth single-handedly changed the production side of the ice industry with his invention of a horse-drawn ice plow in 1825. Before the ice plow, ice harvesters simply hacked ice out of ponds as best they could. The irregular shapes of ice produced by this inefficient method caused problems at sea because the ice would shift during the voyage.

Wyeth's plow produced uniform blocks of ice that not only stayed put during transport but also melted more slowly. The ice plow also cut harvesting costs dramatically, from 30 cents a ton to 10 cents a ton. Wyeth continued to invent other methods and devices that made ice harvesting easier and less costly. However, the lure of the West captured Wyeth's imagination, and in 1831 he embarked on an expedition to the Oregon Territory where he hoped to make his fortune in the fur trade.

Tudor also found a new way to make money by speculating in coffee. According to historians Carl Seaburg and Stanley Paterson, "He intended the fling to be short and one time only. He would purchase coffee for one week, so he wrote on July 1, 1831. On June 28 he wrote again in his diary, 'I have nearly completed my speculation in coffee.' But then he got hooked."

By the end of 1832, his position in coffee was large enough to supply a year's worth of the beverage to a million Americans. Tudor was on the verge of giving up the ice business for the easy money of coffee speculation[3] when he was approached by Samuel Austin, a Boston merchant involved in trade with India, with an offer he couldn't refuse.

Austin wanted to do more business in India, but there was a problem; India produced many things New Englanders wanted, but New England didn't produce anything that could be traded in India. As a result, ships bound for India from Boston needing ballast were often filled with rocks that would simply be discarded when the ships arrived at their destination. Austin proposed shipping ice to India, and Tudor eagerly entered into a joint-venture with Austin and W.C. Rogers, who would accompany the ship to India.

Tudor procured the services of the *Tuscany*, and prepared the ship for its frozen

cargo by insulating its hold with shredded bark and hay. The *Tuscany* left Boston on May 12, 1833 loaded with 180 tons of ice and arrived in Calcutta on September 10 with about 100 tons of ice still intact. The overheated British residents of Calcutta joyfully celebrated the miraculous arrival of ice, and sales were brisk.[4] Money was quickly raised to build an ice house, and plans were made to establish regular shipments of ice to India.

Tudor received word of the ship's safe arrival in January of 1834. The partners made a profit of $3,300 on the venture, but by the end of the year Tudor's losses from coffee speculation had reached an astounding $210,000. However, because of the success of the India venture, his creditors agreed to let him continue in the ice business unhindered and allowed him to repay them over time from the profits. It took Tudor 14 years to pay off his creditors, but by then he was a wealthy man. Some of his wealth came from ice trading profits[5], but the lion's share came from his investments over the years in seaport properties around the world. By 1847, Tudor's real estate investments alone were valued at over $1 million.

The joint-venture with Austin and Rogers did not survive beyond the voyage of the *Tuscany*. Rogers stayed in India and became a dentist. Austin and Tudor became competitors, but Tudor's long years of experience allowed him to dominate the market. The Civil War brought sales of northern ice in the South to an end, but trade elsewhere in the world continued unabated. Tudor died in 1864 at the age of 80. Voyages to India ended in 1880 when the technology for producing artificial ice finally reached a point where it was able to produce enough ice to meet demand.

As I finished my story, I asked my harried MBA student if we could learn anything from Frederic Tudor. "Yes," he replied, and as our discussion continued, we were able to draw a number of useful lessons from the experiences of Tudor.

First, Tudor was passionate about his idea to sell ice in the tropics. It's not enough to have a good idea; you have to believe in it enough to take action in the face of overwhelming opposition. Everyone in Boston thought Tudor was off his rocker when he first proposed selling ice in the Caribbean. No one was willing to back him financially, but he went ahead and financed the venture by mortgaging some of his own investment properties.

Tudor's brother-in-law wrote, "The idea was considered so utterly absurd by the sober minded merchants as to be the vagary of a disordered brain, and few men would have been willing to stand the scoffs and sneers from those whose assistance it was necessary to obtain, to aid him in the enterprise."

Second, Tudor had to exercise a great deal of patience. When describing the cash flows of long-term projects, modern finance textbooks typically assume an initial year of cash outflow immediately followed by cash inflows for the remainder of the project's life. While such a pattern of cash flows is desirable, few new businesses ever experience them. Tudor didn't see positive cash flows from his business for several years as he struggled against embargos, wars and various government bureaucracies. Only the patient can survive in such a world.

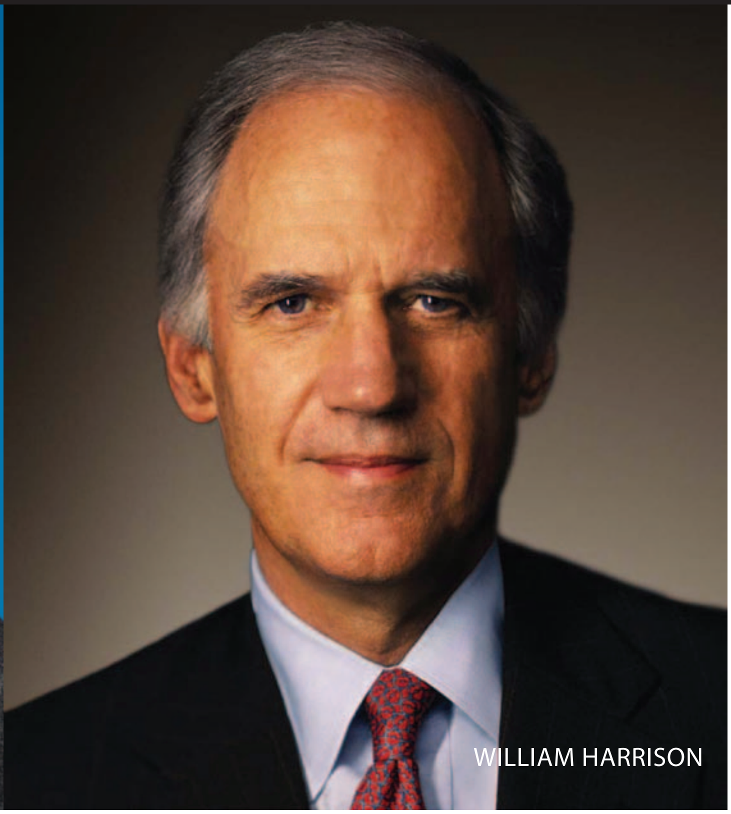
Finally, Tudor persevered. He didn't give up at the first sign of failure, but looked for new and creative ways to operate his business. Although passion, patience and perseverance receive scant attention in today's finance textbooks, they are qualities that must be developed by anyone who wants to succeed in the world of business and finance. $

Ice harvesting, circa early 1900s.

» *continued on page 45*

Restoring the Faith of Investors

On the occasion of the 25th anniversary of the Crash of 1987 and the founding of the Museum of American Finance, members of the Museum's Advisory Board comment on the past, present and future of finance, from their decades of experience on Wall Street.



"The Future of Finance"

By John C. Bogle, Founder, The Vanguard Group

The future of finance will be different than its recent past. The traditional and principal role of finance in our economic system and our society has been to allocate investment to its highest and most profitable uses — the most promising existing businesses and new businesses created by entrepreneurs.

In the recent era, however, the principal role has become to facilitate speculation in the financial markets. For example, in recent years, finance has raised some $250 billion annually in equity capital for business, while the volume of stock trading averaged $33 trillion — 0.8% for investment and 99.2% for speculation. The task is to bring these two models into a sounder balance in the years ahead.

The major lesson of the past 25 years is that the financial markets imprudently magnify changes in the intrinsic values of stocks as stock prices lose touch with economic reality. Moment-by-moment volatility engenders excessive trading, enriching financial firms even as it (relatively) impoverishes investors. We need investors to understand Benjamin Graham's time honored maxim: In the short-run the stock market is a voting machine; in the long-run it is a weighing machine.

The role of leadership in finance is to restore prudent investing to its traditional dominant role in our society. This view is almost universally shared by the "wise men" of our era — the Volckers, the Buffetts, the Donaldsons, the Whiteheads — of which there are all too few. We must develop a new generation of leaders imbued with the idea of patient long-term investing, with strong ethical values and with a clear understanding that the role of finance is to serve not Wall Street, but Main Street — those human beings out there who are trusting us to invest soundly for their future well-being and their financial independence.

"Have We Learned Our Lessons?"

By Henry Kaufman, President, Henry Kaufman & Company, Inc.

While we have experienced substantial turmoil in the financial markets in recent decades, it is nevertheless unclear whether or not we have learned our lessons. One of those important lessons is that financial institutions have an important dual responsibility.

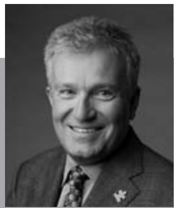
On the one hand, they serve as fiduciary for the savings and investment process. On the other hand, as private institutions, they need to achieve a reasonable rate of return on their capital. Unfortunately, balancing these two responsibilities has not worked well in recent decades. Entrepreneurship has overcome the responsibility of financial trusteeship. It is far from clear whether the Dodd-Frank legislation will allow financial institutions to move ahead effectively and efficiently.

In the euphoria leading up to the recent financial debacle, it was also forgotten that good times breed the illusion of boundless liquidity. Indeed, liquidity seemed to be interpreted by many as the smooth and quick access to borrowing rather than the liquidity displayed on the asset side of the balance sheet.

Another related lesson that should have been learned is that marketability is not the same as liquidity. Liquidity is a characteristic of the markets where marketability has to do with how easy it is to trade in a particular security or class of securities. Adding to this perception of liquidity has been securitization, but this can give a false impression of seamless marketability. The fact still is that marketability varies considerably over a financial cycle.

In these last few decades we also should have learned that marking financial assets to market is an imperfect process. The fact is that the capacity to effectively mark to market varies with market conditions. When market conditions deteriorate and liquidity seizes up, no one can readily claim that the last quoted price in organized markets or quoted by dealers in the over-the-counter market is the real market value.

Finally, we should have learned that modeling risk has great limitations. This practice has become increasingly popular with the improvement in computer technology. Unfortunately, many of these models have relied importantly on historical statistical overlays. As Mark Train once noted, history rhymes but does not necessarily repeat itself.



"Leadership With a Higher Purpose"

By Duncan L. Niederauer, Chief Executive Officer, NYSE Euronext

The financial industry has been built on trust and innovation. Trust is the bedrock that enables every financial institution to operate. Every investment made, every trade executed on markets like the NYSE is a manifestation of that trust. Innovation has kept our markets and our country at the forefront. American ingenuity and inventiveness have made US capital markets the strongest in the world. We are the lifeblood of the economic system. We efficiently bridge the gap between suppliers of capital and those who can use capital to turn ideas into businesses, hire new people and drive economic growth. A well-run and trusted capital markets infrastructure is a pre-requisite to a thriving economy.

Unfortunately, over the past decade we have lost the trust of the public, and financial innovation has developed a tainted reputation. Beginning with the accounting scandals in the early 2000s and culminating with the financial crisis of 2008, we now find ourselves at the center of public skepticism for business. Nowhere is this disillusionment more acute than in the financial sector.

Simply stated, we are in a crisis of trust and confidence that requires a new kind of leadership from our industry's current generation of executives. Not just leadership to keep our companies functional and competitive until the economy recovers; and not just leadership to drive new forms of financial innovation. We need leadership with a higher purpose.

I believe that great organizations have great purposes. We in the financial industry too easily forget the important roles — and responsibilities — we have to serve the public good. We need to remind ourselves, our employees and the general public why we exist and that success and good behavior go hand-in-hand.

But that's not what should motivate us. We should be motivated by character and leadership. At NYSE Euronext, we have tried to lead from the front. Earlier this year we launched an initiative called the NYSE Big StartUp to help entrepreneurs and small companies succeed — and ultimately create jobs in the US. We have made a multi-million dollar investment to get this program up and running. We are doing it because it is the right thing to do, because the economy needs jobs and because we believe we are in a unique position to be part of the solution.

Also this year, we launched a new program around military hiring. For millions of American soldiers who have served our nation with honor and dignity, the toughest challenge they face comes not on the battlefield, but in finding rewarding employment after they leave the military. That's not just a national tragedy, but a tremendous waste of potential. To assist some of these servicemen and women transition to life in the private sector, we started a modest Veterans Associate Program at the NYSE this summer and recently reached out to more than 3,000 public company CEOs asking them to join us in an effort to help tap into this world-class, but often neglected, pool of talent.

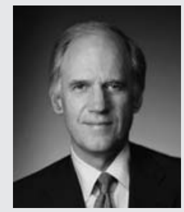
Finally, we are pushing a new kind of CSR — "collaborative social responsibility." Leveraging our community of listed companies, our goal is to test the hypothesis that like-minded socially responsible companies can have a greater impact by collaborating around common objectives, as opposed to operating independently. We are engaging public companies in collaborative efforts to promote financial literacy and education, volunteerism and environmental sustainability, to name a few.

I believe this is the kind of innovative leadership our industry needs and our country deserves. The current generation of financial executives will be measured not solely by how well their companies perform, but also by the degree to which trust has been restored in our industry after the financial crisis.

With the continued help of our financial leaders, we can give a strong ethical compass back to the free enterprise system, and in the process rebuild trust and confidence in our industry. Ultimately, there is no capitalism without character.

"Lessons of the Past 25 Years"

By William Harrison, Former Chairman and CEO, JPMorgan Chase



The best lessons of the past 25 years from my perspective and experience are:

- That excellent management and proper risk taking are the two most important qualities of success.
- That size matters and will continue to be a key driver in years ahead.
- That the culture of a firm is a critical variable to success.
- That diversification of risk is probably the most important risk management quality.
- That leadership positions of your products and services drive profitability.
- That consistent expense management will be a key determinant in industry leadership and success.
- That one should always try to be a leader — not a follower — in the emerging trends of finance.
- That the increasing complexity of financial institutions is a given— like technology one must learn to manage complexity.
- That you should always try to learn from your mistakes and the mistakes of others.

CAPITAL MARKETS AND US VICTORY IN THE SPACE RACE, 1957-1970

By Peter Kline

The Space Race, a period of American and Soviet technological competition spanning longer than 20 years, was a large and highly-lucrative source of business for American aerospace and related technological firms. Boeing, TRW Inc., the Grumman Corporation and others eagerly participated in, and profited from, the technological race. Stock market valuations of those companies, however, were sometimes buffeted by non-financial, geopolitical news including the launch of Sputnik, JFK's moon speech, the success of Apollo 11, the near-disastrous systems-failure of Apollo 13 and the cancellation of the Apollo program.

One might surmise that such significant geopolitical events would have caused large stock price gyrations, but in fact few did. In some cases, investors correctly anticipated events, muting their effect on stock prices. In other cases, they correctly judged the hidden benefits of ostensibly bad news. The overall efficiency of the stock market invited investment, dollars that the big three aerospace corporations and other major government contractors used to build the technologies that won the Space Race and ultimately the Cold War.

Left (top): Astronaut Buzz Aldrin stands beside an American flag on the moon, 1969. Left (bottom): Illustration celebrating the launch of Sputnik I and II, 1957.

United States aeronautics and aerospace firms Boeing, Grumman, North American Aviation and TRW were all founded earlier in the 20th century, and each contributed to the Space Race in important ways. Grumman built the Apollo Lunar Lander, TRW built or collaborated on several different satellites, Boeing was heavily involved in the Apollo program and the construction of the Saturn V Rocket, and North American Aviation contributed to the construction of both the Saturn V rocket and the Apollo program's Command Module. Members of the Grumman team that designed the Apollo Lunar Lander are still venerated in the scientific community for their achievements.

The successful launch of the first man-made satellite, Sputnik I, by the Soviet Union on Friday, October 4, 1957 sparked the Space Race by creating the widespread perception that the US had fallen behind the Soviets both technologically and militarily. The nation's star struck and fearful response proved a pivotal one in American history because it led directly to greatly-increased federal government involvement in higher education and scientific research and development. It also provided the political cover needed to fund direct human exploration of the lunar surface.

Sputnik did not encourage sky high confidence in American industry. This was reflected in the stock market at large when on Monday, October 7, 182 companies posted record lows while no companies

Certificate from one of the top US aeronautics firms, North American Aviation, 1956.

Commuters read newspapers with headlines announcing the failure of US Vanguard missile, 1957.

on the NYSE reported a yearly high. The aeronautics companies were not immune to this damaging effect. Boeing lost one and a quarter points, equivalent to 3.6% of the company's worth, by the close of the day following Sputnik's launch (the NYSE opened on Saturdays back then). Grumman's stock, by contrast, did not suffer as badly at first, but the remainder of the following week was not kind to either company. With the majority of companies on the NYSE posting negative results for the week after October 4, Boeing lost nearly another 4% of its stock value and Grumman plummeted almost 10%.

The apparent Soviet dominance in the Space Race continued in April 1961 with the successful launch and return of Yuri Gagarin, the first human in space. This remarkable achievement, a much better demonstration of Soviet capabilities than the launch of Sputnik, failed to have the same type of impact on the markets or upon the American psyche that the launch of Sputnik created. Boeing gained just under 1% of its value while Grumman lost 2% and NAA gained 2% during the days following Gagarin's pioneering trek. While some newspapers carried stories about how this was a further demonstration of Soviet leadership in the Space Race, the acknowledgement of Soviet leadership by the American government and public generally (not a passive sentiment, to be sure) made Gagarin's feat less of a shock than the utter surprise that was Sputnik.

John F. Kennedy's speech before a joint session of Congress on May 25, 1961 galvanized the American effort to gain technological mastery over the Soviets in the Space Race. At the beginning of the 1960s, many thought the Soviets were in the lead by a span of several years. JFK admitted as much and argued that in order to have a fighting chance of catching the Soviets, the nation had to commit itself to the tough goal of landing a man on the moon by the end of the decade.

A year and a half after JFK's speech, prominent members of the American scientific community continued to predict the Soviets would win the race to the moon, barring a "sudden breakthrough." So clearly JFK's speech was not an instant turning point for the aeronautics industry or the nation as a whole, but has come to be seen as such due to America's eventual success in the Space Race. This conclusion is bolstered by analysis of aerospace company stock prices, which were detached from the President's speech.

Boeing's stock rose only one-eighth of a point after the speech, suggesting that investors considered the speech more bluster than the harbinger of big government contracts. Similarly, TRW's stock experienced the typical daily fluctuations, showing no significant reaction to JFK's speech (it fell marginally the day after). Grumman's stock jumped 1.8% on the day of the speech, but the increase appears to have been independent of the President's soaring rhetoric. Aerospace stock did not increase dramatically immediately following the speech because NASA's planning had already put the US on a slightly longer but very similar deadline, with circumlunar (moon orbit) flights planned for late in the decade and manned missions to the lunar surface not long after. Moving up this deadline served as little more than an increased logistical challenge to the engineers behind the project and a nice bit of PR for JFK and the United States.

Apollo 11, the first mission to land a human being on the moon, was a major event in American and world history. Such a remarkable occurrence, however, had little discernible effect on the stock prices of the big three aerospace companies. TRW, Boeing and even Grumman suffered losses over the course of the week following the historic mission. It might have been expected that the perfect performance of Grumman's groundbreaking Lunar Lander would have shone favorably upon the company, but it lost almost 4% of its value over the following week. Boeing's value fell by 2.4% over the same period. Clearly investors had anticipated the success of the mission and already priced it into the valuation of the aerospace companies. What concerned investors in the warm afterglow of the landing were emerging macroeconomic difficulties and the possibility that successful completion of a manned lunar mission might reduce public interest and the juicy government contracts that accompanied it.

Apollo 13 was a near disaster but was touted as a huge success because the astronauts returned home alive. Apollo 13 was, if nothing else, an excellent demonstration of how human ingenuity and determination can overcome even Murphy's Law.

For the private companies who were not caught up in the spotlight of the Apollo 13 rescue, however, the mission brought relatively minor trouble. During the week of the disaster (April 14–18, 1970) each of the three big companies posted losses, with Boeing losing 5.5% of its value, TRW's value dropping by about 2% and Grumman's value sinking 1.3%. The companies which designed some of the equipment associated with the failed mission took hits too, though not catastrophic ones. North American Aviation, which built the Command Module that suffered the malfunction, lost only 3.5%.

In September 1970, the final three Apollo missions were cancelled, leaving only two more scheduled. The cancellation indicated that the mission objectives of Apollo (to put humans on the moon and to discover more about our celestial neighbor) had been accomplished, and also that the space program was preparing to move on to different projects, including Skylab and the Space Shuttle.

Skylab was already in the works and helped to carry the space program from the close of the Apollo missions in 1972 to the 1981 launch of the Space Shuttle, the re-usable orbiter that remained the defining feature of the American space program for the next 30 years.

During the week of the Apollo cancellation, Boeing's stock jumped 10%, and TRW's and Grumman's stocks rose 7.3% and 8%, respectively. The companies apparently benefitted from the revelation that NASA and the government would be turning their sights (and dollars) on other programs in which the companies would vie to play large roles.

Investors were not disappointed. Since the days of the Space Race, the big aerospace companies have continued to thrive on government contracts. Boeing is still a major player in the aeronautics field and acquired North American Aviation. Grumman Corporation was acquired by Northrop to form Northrop Grumman Corp., one of the largest defense contractors in the world today. TRW Inc. was acquired in part by Northrop Grumman, which wanted its defense industries. The non-defense side of the business was spun off into TRW Automotive, which primarily works to make cars safer through the development of new technologies.

The major events of the Space Race and the stock value of the companies involved in the aerospace industry were deeply intertwined. While unanticipated events such as Sputnik or the announcement of the cancellation of the remainder of the Apollo program had the anticipated positive and negative effects on the markets and on the aerospace firms, events such as the Apollo missions that had been scheduled and anticipated by investors had already been taken into account in the valuation of Boeing, Grumman and TRW and, therefore, did not affect the companies' stock prices with nearly the same punch that geopolitical surprises packed.

The Space Race and the Apollo program had a major effect on the American economy by harnessing the talents of hundreds of thousands of Americans, thousands of companies and hundreds of universities. Although some of the Space Race's most gripping moments were surprises, a majority of the Race was a planned, dedicated effort of which the public and investors were kept well aware. Markets fluctuated as new information became available, but they were rarely shaken to the core. As a result, investors continued to pour their savings into the market and, thereby, finance the big companies whose engineers won the Space Race.

America's foe, despite its early lead in the race, lived under a very different set of rules that in the end could not command the resources necessary to win the Space Race or the Cold War of which it was a part. Although it achieved a few successes, including Sputnik and Gagarin's flight, the Soviet government wasted precious resources, manpower and ingenuity on projects with more political appeal than practical military or economic sense.

In the 1930s, for example, it expended a substantial part of its R&D budget in a failed attempt to develop aircraft powered by steam turbines. During the Space Race, America quickly drew even with the Soviets scientifically and militarily, while the Soviets were content to trounce the US only in the propaganda department. By January 1960, seven of 15 satellites launched by America were still orbiting Earth, while only one of three Soviet devices still roamed the skies, a fact that should have dispelled some of the abundant American discomfort about the Soviet "lead" in the Space Race.

The American focus on scientific and technological value, even if that meant smaller satellites and lower lift capacity rockets, clearly turned out in the long run to be a much better tactic than the Soviet's emphasis on larger but less useful technologies.

The financial crisis of 2007–9 — and subsequent recession and attendant human suffering — revealed that capitalism, that complex and ever-evolving mix of free markets, democracy and big government, is far from perfect. The Space Race reminds us, however, that it was superior to communism, its main 20th century rival. Despite its warts, perhaps capitalism is still the best system available. **$**

Peter "Sander" Kline is an undergraduate student at Augustana College in Sioux Falls, SD. The Thomas Willing Institute provided Sander the opportunity to study and write about the Space Race, a childhood fascination he maintains to this day.

Sources

Anon. "Space Foundation Publishes Apollo 11 Recollections." *UPI Space Daily*. July 10, 2009.

Anon. "Spiked Horns of Dilemmas." *Economic and Political Weekly*, Vol. 5, No. 32. August 8, 1970.

Baldwin, Hansom W. "Neglected Factor in the Space Race." *The New York Times*. January 17, 1960.

Ertel, Ivan D. "Apollo." *The Southwestern Historical Quarterly*, Vol. 73, No. 2. October 1969.

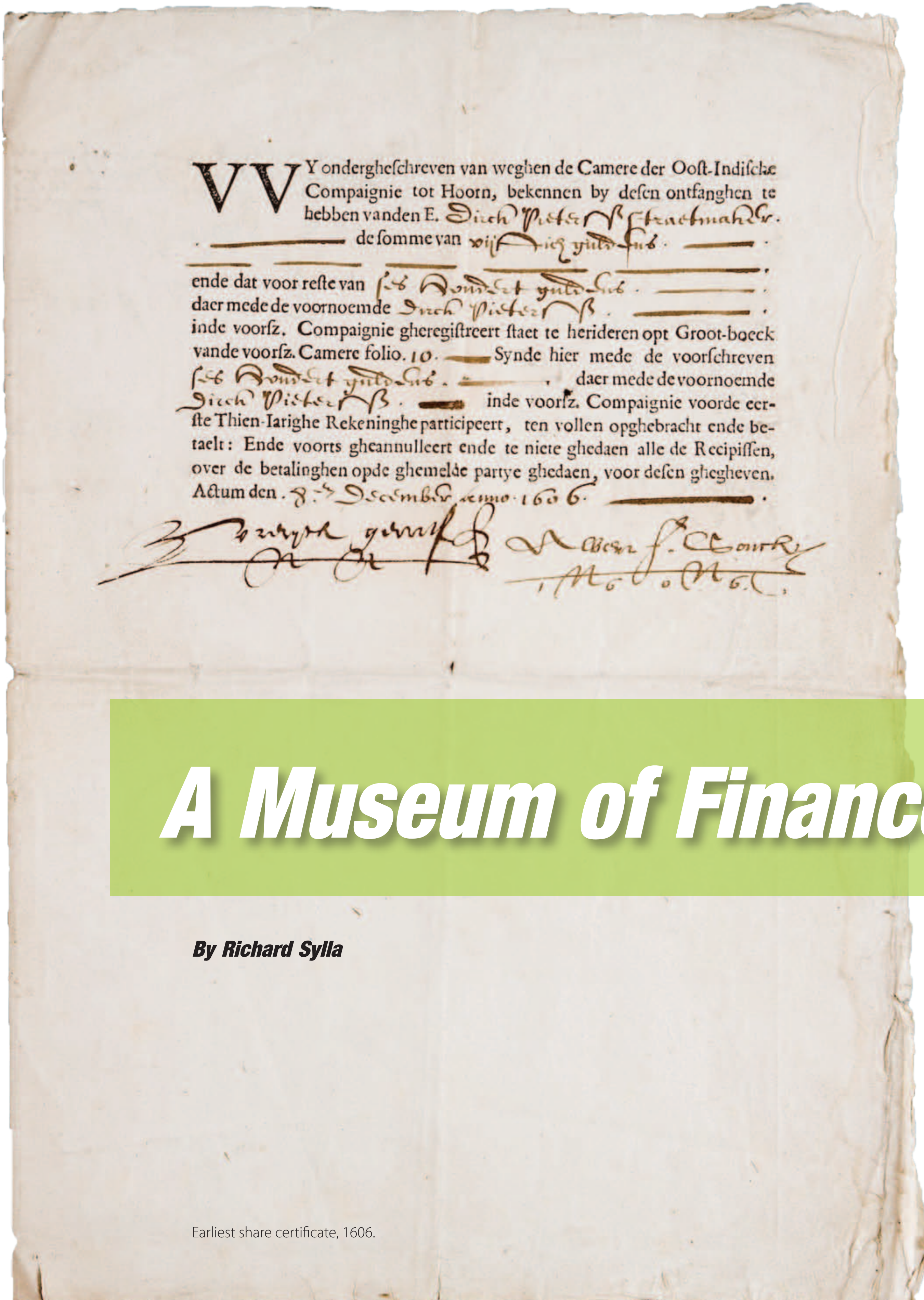
Hughes, James J. "Confusion over Space." *The Journal of Social, Political and Economic Studies* Vol. 36, No. 1. Spring 2011.

Kennedy, John F. "Special Message to the Congress on Urgent National Needs." May 25, 1961.

Launius, Roger D. "Saturn V: The Complete Manufacturing and Test Records plus Supplemental Material." *Air and Space Power Journal* Vol. 22, No. 3. Fall 2008.

Mathews, Melissa and Beth Dickey. "Apollo Lunar Lander Team to Share Lessons Learned with NASA." US Fed News Service, Washington DC; July 5, 2007.

Samuelson, Robert J. "It's Sputnik Time Again." *Newsweek*. May 30, 2005.



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Amsterdam Stock Exchange Foundation.

Earliest share certificate, 1606.

A Museum of Finance:

By Richard Sylla

The Power of Finance: Evident, But Underappreciated

It is said that imitation is the sincerest form of flattery. As the Museum of American Finance observes its 25th anniversary, those of us connected with it are pleased that its model is being emulated in other countries. China has several finance-related museums, all of recent vintage. Italy recently opened one. Plans for one in France are well along, and people in Poland and the UK are interested in forming one. The Museum of American Finance inspired some of these ventures. Others started independently and then were encouraged by discovery of the Museum's model.

What accounts for this burgeoning interest in the past and present — and of course, the future — of finance? The worldwide financial crises of 2007–2009 and their aftershocks have contributed. They showed many people unfamiliar with the long history of financial crises that when financial systems go off the rails, the economic consequences can be serious indeed.

Why?

Museum of American Finance

Bond issued to, and signed by, President George Washington, 1792.

These recent developments, however, have only amplified an interest that was increasing before they occurred. Before the recent crises, the growing interest in finance and its history developed two deeper roots. One derived from the work of scholars — economists and economic historians — that demonstrated what for short can be termed "the power of finance." Economists, using the wealth of data on financial development and economic growth for most of the world's nations during the past half century, showed that countries with more highly-developed banking systems and securities markets grew faster than those without them. Moreover, sophisticated statistical analyses indicated that financial development caused economic growth rather than the other way around. The related findings of economic historians are discussed below.

The other root of the growing interest in financial development is the realization that most people are not aware of the power of finance, either in history or now. In fact, although most people use some part of the financial system daily, many of them, sad to say, are unaware of all that it offers or have but a limited understanding of the various options.

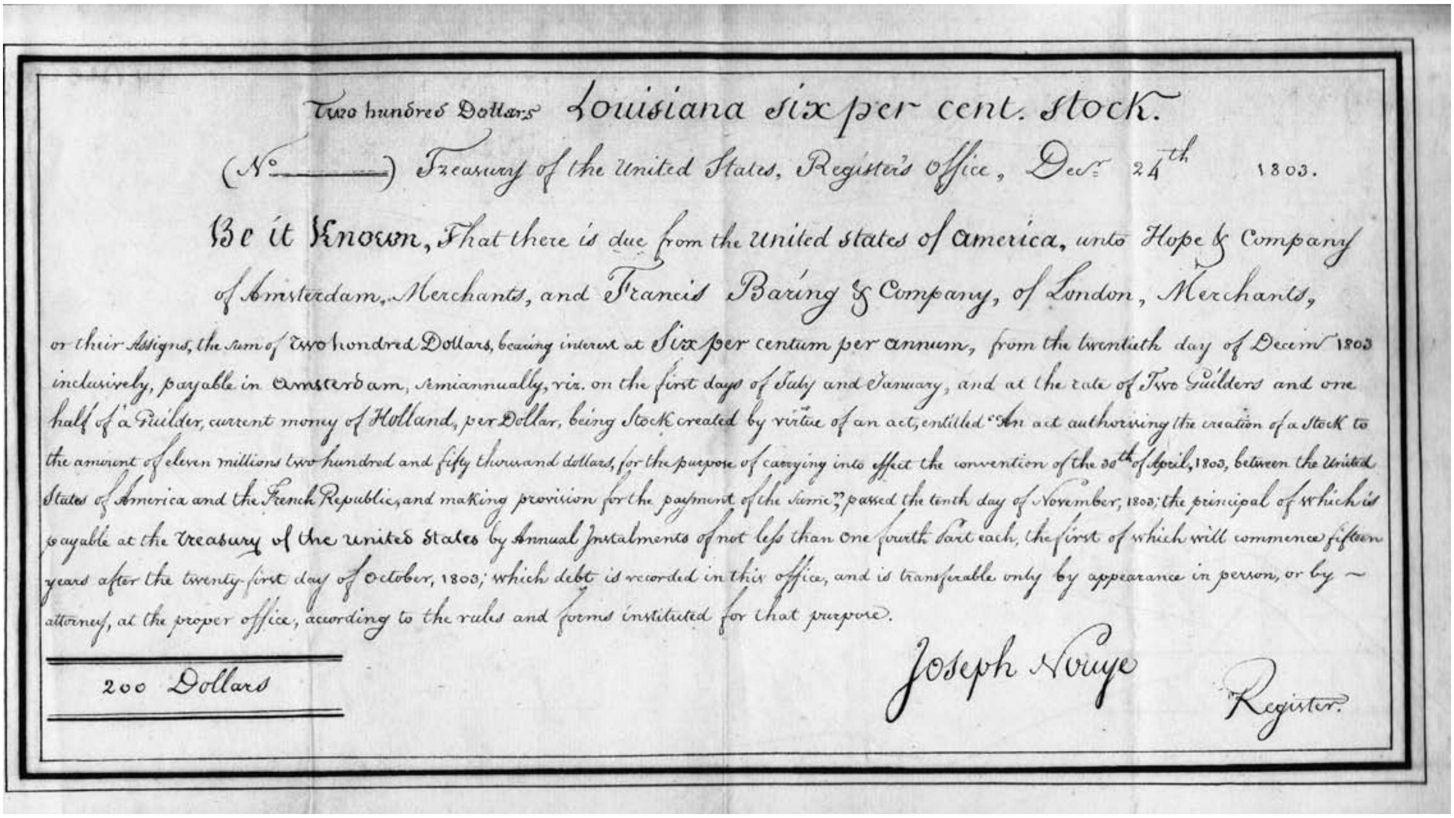
Financial illiteracy is a real problem. If the power of finance is to be more fully realized, the solution to this problem is financial education. Museums of finance are logical places to illustrate and teach about financial history, and to stimulate people to become more aware of the power that finance can have in their own lives.

The Power of Finance in History

Financial historians, myself included, were not surprised by the findings of the economists on finance-led economic growth. History offers even stronger confirmation of it. The medieval Italian city states, for example, invented modern banking and public debt markets before the Renaissance…and then had the Renaissance. But one example cannot establish a cause-effect relationship. Fortunately there are more.

At the start of the 17th century, the Dutch Republic, to help win its independence from Spain, developed the first fully-articulated modern financial system. It featured a public debt market, a stable currency, the Bank of Amsterdam and other banks, the Amsterdam Bourse and corporations such as the Dutch East and West India Companies. These two companies, as it happened, were involved in founding New Amsterdam/New York. Powered by modern financial arrangements, the Dutch Republic could borrow more money at a lower cost than could far larger Spain to put armies in the field and fleets on the seas. They won their independence. With modern finance, the Dutch went on during the 17th century to have their Golden Age and what historian Simon Schama termed "the Embarrassment of Riches." They became the first modern economy.

The English, in the Glorious Revolution of 1688, invited the Dutch leader Willem of Orange to become King William III of England. William brought Dutch financiers with him, and England shortly had a modern public debt market, a stable currency, the Bank of England (1694), a banking system, many companies and a stock market. In a reprise of the Dutch-Spanish story, there followed a string of English military victories over much larger France, as well as the first industrial revolution and a worldwide empire on which the sun never set.



Two hundred Dollars Louisiana six per cent. stock.

(No. ____) Treasury of the United States, Register's Office, Decr. 24th 1803.

Be it Known, That there is due from the United States of America, unto Hope & Company of Amsterdam, Merchants, and Francis Baring & Company, of London, Merchants, or their Assigns, the sum of Two hundred Dollars, bearing interest at Six per centum per annum, from the twentieth day of Decemr 1803 inclusively, payable in Amsterdam, semiannually, viz. on the first days of July and January, and at the rate of Two Guilders and one half of a Guilder, current money of Holland, per Dollar, being Stock created by virtue of an act, entitled "An act authorising the creation of a Stock to the amount of eleven millions two hundred and fifty thousand dollars, for the purpose of carrying into effect the convention of the 30th of April, 1803, between the United States of America and the French Republic, and making provision for the payment of the same;" passed the tenth day of November, 1803; the principal of which is payable at the Treasury of the United States by Annual Instalments of not less than One fourth part each, the first of which will commence fifteen years after the twenty-first day of October, 1803; which debt is recorded in this office, and is transferable only by appearance in person, or by attorney, at the proper office, according to the rules and forms instituted for that purpose.

200 Dollars

Joseph Nourse

Register.

Museum of American Finance

6% Louisiana Purchase bond, 1803.

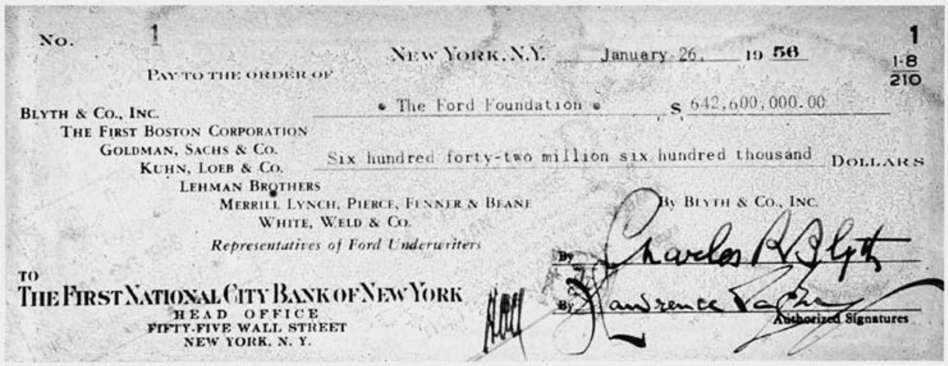
North America was a part of that empire, but 13 of its colonies opted out in 1776 to form the United States of America. Alexander Hamilton, one of the key founding fathers, absorbed the lessons of Italian, Dutch and English financial history, and quickly brought the power of finance to the US by emulating and improving on the earlier models.

When Hamilton became the first Secretary of the Treasury in 1789, the US had none of the key components of modern financial systems. By the time he stepped down in 1795, it had all of them: strong public finances and national debt management, a stable dollar, a central Bank of the United States, a banking system, securities markets (the NYSE, for example, originated in 1792) and a growing number of corporations that quickly eclipsed the numbers existing in the old European countries. The US was off and running on modern economic growth. It became the most successful emerging market of the past two centuries. Is it any wonder that Hamilton is the Museum's patron saint?

Museum of American Finance

$5 US greenback, 1863.

Japan is my favorite historical case to illustrate the power of finance and how it leads to growth. The country was almost totally isolated from the rest of the world for two and a half centuries before the 1850s, when US Commodore Perry's black ships arrived to "open" it. There followed a struggle between Japan's traditionalists and its modernizers, which the modernizers won by 1868. Like Hamilton before them, the modernizers studied the institutions of the leading European and American countries, and quickly realized the power of finance. They stabilized public finances and issued modern debt instruments, a new currency and a central bank (the Bank of Japan, 1882). In 1878, stock exchanges were founded in Tokyo and Osaka. The Japanese government reformed the banking system and promoted modern corporations. Powered by finance, Japan's economic growth accelerated. By the early 20th century, the country was a major world power. After



Museum of American Finance

Check for $642,600,000 issued to the Ford Foundation after investment bankers sold a large block of the Foundation's stock in the Ford Motor Company to the public, 1956.

World War II, Japan became the first non-western country to equal the developed western nations in virtually every respect.

From Whence the Power of Finance?

Despite the work of economists and economic historians, to most people the power of finance is hardly self-evident. Even people working on Wall Street can miss it. A foreign currency trader there once told me he could not understand why he was earning 10 times as much as his mother, a teacher, when in his view his mother was doing far more important work. What can explain the power of finance?

A century ago, the noted Austrian (later American) economist Joseph Schumpeter (1883–1950) provided the best short analysis. In his *Theory of Economic Development*, Schumpeter identified the entrepreneur, the innovator of new products, markets, processes, sources of supply, etc., as a driving force in economic progress. Thanks to Schumpeter, we cherish entrepreneurship.

But — and this is often forgotten in accounts of Schumpeter's analysis — besides the entrepreneur, there is an equally important driving force, the banker. The banker is important because the entrepreneur cannot implement his innovative ideas without credit and capital, which is what the banker can supply. There are many would-be entrepreneurs, but far fewer good ones. A part of the banker's job is to identify and back the good ones; one will recognize modern venture capital activities as an example of this. When bankers do their work successfully, good ideas get implemented, economies grow and the world has more goods and services.

There are, of course, some losers in the development process. Those who do things the old way and fail to innovate are driven to the wall. Schumpeter called it "creative destruction." Think, for example, of what Jeff Bezos and Amazon have done to traditional booksellers and other traditional retailers.

More generally, Schumpeter's concept of the banker can be regarded as the entire financial system, which is a vast network of governments financing themselves; banks lending and facilitating payments; financial markets making assets liquid and tradable; and a variety of financial and non-financial corporations that issue stocks and bonds, lend and borrow and provide most of our goods and services.

This vast financial network, working properly, allocates scarce capital to its best uses. It also provides ways of managing risks by offering insurance, diversification and hedging. The network has what economists call network externalities. When they are positive, the whole is greater than the sum of the parts, and we experience prosperity and economic growth. When something goes wrong in a part of the network, the externalities can become negative. The result is a financial crisis in which financing is crippled or dries up, economic growth slows or stops and unemployment rises.

Economic and business historians at NYU's Stern School of Business, where I teach, have created what is in essence a more historically-attuned model of development than Schumpeter's simple one of entrepreneur and banker. We call it "the diamond of sustainable growth," which like a baseball diamond has four corners or bases. Countries that cover all of the bases well tend to prosper; those that don't tend not to prosper or prosper less.

The first corner of the diamond is *an enabling government and political system*, one committed to economic growth and development. Often this involves representative institutions and governments. Harking back to history, it was not a coincidence that the financially-innovative Italian city states of the Renaissance were republics, as later in time were the Dutch and the American nation states. Or that Britain and Japan were constitutional monarchies. A representative government with constitutional constraints on its powers is more likely to care about the general welfare than about the welfare merely of those who happen at the time to exercise governmental powers.

The second corner of the diamond is *a dynamic financial system*. It is second because it depends on the rule of law, property rights and the enforcement of contracts. These are provided by enabling governments and political systems.

Corner three of the diamond is *vibrant entrepreneurship*. Entrepreneurs likely will thrive when government is on their side and a financial system is in place to provide them with the credit and capital they need to implement their creative (and creatively destructive) ideas.

Finally, corner four is *effective managerial capabilities*. With good governments and dynamic financial systems in place, successful entrepreneurs are likely to create enterprises so large and complex that a single entrepreneur or family cannot effectively manage them. Professional managers are needed, and they have to be trained. It was no accident that the first business schools began to appear in the US during the late 19th and early 20th centuries, the very time when large corporations in transportation and manufacturing arose and came to dominate the American economy. Business schools addressed the need for trained managers.

The diamond of sustainable growth teaches us that the power of finance is not absolute. Rather, it is contingent on good government and the rule of law. We in America often take good government and a dynamic financial system for granted. A glance back at history and around our world today ought to cure us of taking such things for granted. For much of modern history only a few of the world's nations » *continued on page 46*

BREAKING OUT OF THE PIT

As equity markets shuddered in ’87, commodity markets faced their own challenges

By Gregory DL Morris

While equity markets were suffering the traumas of the Crash of '87, commodity markets were also undergoing wrenching transformations. Those, however, were not driven by external crisis, or even the concurrent events in the stock exchanges, but rather the need to change or die.

"We always talk about the last 30 years as the complete evolution of global commodity markets," says Richard Baker, CEO of Cleartrade Exchange. "From the beginning to the late 1980s it was all physical business in the pits. Goods were graded on the floor of the exchanges, traders were in there shouting and waving tickets. Everything was simple, bilateral transactions. The day was over when they stepped out. Then indexation began to appear, and we commenced trading futures. It started with sugar and cocoa and coffee, and they took decades to develop acceptance."

Cleartrade Exchange is itself a product of the shift to electronic trading that began in the late '80s. It is an electronic global marketplace for over-the-counter commodity derivatives and is regulated by the Monetary Authority of Singapore. The company provides a specialized order-management and processing platform, developed for the freight and commodity derivatives markets. It also provides a real-time trade Repository and four daily China Steel Indices, which are available to clients worldwide.

Baker recalls that later contracts, such as dry freight swaps, still took more than a decade from their first introduction to their full adoption. Iron ore contracts, in contrast, were introduced just two or three years ago in various exchanges, and took only about 18 months from their launch to full acceptance.

Of course hardware and software were major drivers of that change as the technology itself gained traction. There is a strong correlation between the computers themselves and their usefulness as indexing and trading tools — at first to crunch numbers for traders, and now to operate as electronic exchanges themselves.

Left: Traders on the floor of the Chicago Mercantile Exchange trade fiercely in the S&P 500 pit, October 20, 1987.

DAVID BANKS/AFP/Getty Images

Richard Baker, CEO of Cleartrade Exchange.

Gavin Lavelle, CEO of Brady plc.

To be sure, the transformation in commodity markets has not been without some resistance. "There is always the fear factor," says Baker. "At first brokers were afraid that indexing of futures trading and the rise of electronic transactions would reduce or eliminate their business. In the event, just the opposite has happened. Volumes and dollar values on all the exchanges, physical and electronic, is 15 to 30 times what it was before."

He stresses that is not simply a function of computing power. "In every market there is a very close link between transparency and concentration of volume and growth. Where there is faster and wider price discovery and transaction speed and security, that is where people want to trade."

One of the reasons that the change in commodity markets has been so dramatic in the quarter decade since the equity Crash of '87 is because there are fundamental differences in goods trading versus financial instruments. So says Gavin Lavelle, CEO of Brady plc, which is one of the largest global companies in trading and risk management software to commodity and energy markets. The company was founded in 1985. "There is some commonality to trading overall, but commodities are different from equities, bonds, money markets and foreign exchange."

Not to put too fine a point on it, there is, first and last, the stuff itself. Commodity markets for decades were somewhat insulated from outside speculation because at the end of the transaction, the holder actually got grain or meat or metal.

"On the London Metal Exchange, if you held the contract to maturity, you got a ticket for two tons of copper, or steel, or wheat, in a warehouse near town," says Lavelle. "That is very distinct from a credit to your account. It is heavy, and it is not fungible. It needs to be stored and insured until it is used."

Lavelle is quick to note that just because there was no crash in commodity markets in '87 that does not mean they are immune to the forces that took down equity markets. "In 1987 we saw a classic bubble," he states. "We saw an overheated stock market that suffered a big collapse or correction, if you will. There are other bubbles in credit, commodities, and we just saw a huge one in housing."

The only difference, Lavelle explains, is that "there is a low correlation between asset classes. Commodities and equities move in different cycles. And even within asset classes there are different cycles. Overall there is a slump in commodities this summer, as demand from China has slowed somewhat. But wheat is going through the roof because of the drought in the American Midwest."

That counter-cyclicality may have been a comfort to commodity market makers and traders in 1987, but at the time they did not have time to ponder macroeconomics. "I was what today would be called chief information officer at the London Commodity Exchange [LCE] in 1987," recalls Bob Antell, who is today business development director for Cleartrade, "and we were still all trading in the pits. We started towards the electronic futures markets because of costs." Similar things were happening at the major exchanges across Europe and in North America.

Antell details that "there was extremely high administration and personnel overhead with people in the pits and runners and staff at the back office for every telephone line. A large trading organization would have two or three fellows in each pit, and a little telephone booth to the back office. Costs for that system were high, and transparency was low."

The first contract that was taken off the floor was sugar, Antell says. That was because it was one of the newer contracts, and did not yet have so much physical infrastructure and staff in place. So the process was under way. Then the London International Financial Futures and Options Exchange (Liffe) bought the LCE in 1996, and it went all electronic.

"Even before the acquisition it was very expensive to launch a new contract," Antell recalls. "And that was true for any open-outcry exchange. You had to allocate floor space for a new pit, and put in the telephone infrastructure. Each brokerage had to hire new traders and back office staff, and the exchange and regulators had to do the same." One new contract could easily mean dozens of new staff, if not up toward 100.

When LCE was acquired by Liffe, there was a massive decision to be made. Liffe either had to build the world's largest trading house, or make the jump to light speed and go completely electronic. Antell relates that the early thinking was leaning toward a huge new building, and an option was taken on land in the London district of Bitterfield. But then, with the success of the electronic sugar contract, cocoa and coffee followed in a similar fashion within a few years, and the case was made for automation.

There were other factors converging, too. The improvement in price discovery and other elements of transparency got the regulators on board quickly, Antell says.

"From the early '80s each exchange had to provide a data feed to the regulators and to Reuters. Then Telerate and Bloomberg emerged and there was a great deal more transparency." Antell started his career at Telerate, and as he recalls, "coincidentally 1987 was the year that Telerate became a viable competitor to Reuters for worldwide collection of market data and much more information for traders."

At that convergence of cost control for the market makers and traders and the transparency for regulators and information services, the result was vast new interest from new participants. "Once we began offering much more efficient trading," Antell says, "with liquidity and transparency and worldwide instant data availability, that made financial institutions that were not previously interested in the commodity markets want to get involved."

He is quick to add that big jump in open interest and new parties was a double-edged sword: the continuing challenge of balancing the need for volume and liquidity against the volatility engendered by speculation.

The beneficial side is clearly illustrated by one of the most recent futures contracts to be launched, iron ore. "That market was predominantly traded by three brokers and 16 counterparties," says Baker. "Now there are 20 brokers handling that contract, and as many as 400 registered counterparties. Not all of them will trade, and not all of them will survive, but the market will grow." $

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ALBERT GALLATIN

STEPHEN GIRARD

FINANCING THE WAR OF 1812

By David J. Cowen

In early 1803 the French and the British went to war, as they had so often during the prior hundreds of years. This time, Napoleon Bonaparte's visions of grandeur were at the root of the conflict. Initially, this war proved a bonanza for American merchants. As a neutral third party, they traded—and quite profitably at that—with both sides. However, as the war dragged on, one particular event would change everything.

In June 1807 the British warship HMS *Leopard* challenged USS *Chesapeake* in the Chesapeake Bay to let her be boarded in a search for British deserters. American crews were wary of this, as often the British would "impress," or draft on the spot for service in the Royal Navy, anyone suspected of being part of the Crown's empire. When the American captain refused, the *Leopard,* violating all neutrality, fired relentlessly at *Chesapeake* with the result of a rounding defeat of the Americans, who managed to return fire only one time.

The *Leopard's* attack was an act of war, and everyone knew that President Thomas Jefferson's party preferred taking the side of the French against the British. However, Jefferson realized that because of his administration's failure to maintain the US armed forces, the nation was ill-equipped to fight. He opted instead for economic sanctions, and he and his Congress passed the Embargo Act.

That invidious act, and the various trade restrictions and acts that followed, were the products of wishful thinking on the part of the incumbent Republican Party. Jefferson believed that Britain needed America more than America needed Britain. In fact, as major trading partners they need each other equally. Moreover, since Britain was locked in a desperate struggle against Napoleonic authoritarianism, it did not look kindly on the actions of its former colonies. Worst of all, the embargo decimated the American economy because it hurt those involved in international trade, which meant that some farmers and artisans suffered along with the merchants.

Given the nation's unfavorable financial condition, it would have been best to avoid war with Britain. But Americans felt their sovereignty was at stake. In fact, what we now call the War of 1812 was at the time referred to as the Second War of Independence. British impressment of US sailors and incursions into American territorial waters were clear violations of the country's nationhood. British forts on American territory in the Northwest and a standing army in Canada were also clear threats.

It is difficult to argue that the war was inevitable because the British took a conciliatory tone near the end. Indeed, had news of their more liberal policy arrived earlier, war might have been averted. But it would be equally difficult to argue that the war was fought for light and transient causes. Those with close commercial or blood ties to Britain, however, wondered why the United States did not go to war with France, which had been equally abusive. In short, the war was controversial, perhaps even more so than the conflict in Vietnam would prove to be.

As in Vietnam, domestic division meant

that total victory could not be achieved. The War of 1812 ended as a draw. Notable US military victories on the Great Lakes (Oliver Hazard Perry), in the open seas (the USS *Constitution*, better known as "Old Ironsides"), at Baltimore (inspiration for the national anthem) and in New Orleans filled Americans with pride. On the other hand, because Jackson's stunning victory at New Orleans occurred after the peace treaty had been signed, it gave the United States no bargaining power at the peace table. Indeed, the impressment of sailors, one of the root causes of the war, was not even mentioned in the finished peace treaty!

Moreover, the war almost shattered the Union as New Englanders, with their close ties to Old Englanders, vehemently opposed the conflict and even threatened secession. The war also proved embarrassing at times, particularly the sacking of Washington on August 24–25, 1814, when British forces burned the Capitol, the White House and many other buildings, including Secretary of the Treasury Albert Gallatin's residence. (The British generously removed his furniture before lighting the blaze.)

Jefferson's trade restrictions had greatly weakened the economy, and the nation was unprepared for war when it finally came in early 1812. In particular, the financial system was not yet large or mature enough to raise the necessary capital in the face of wartime conditions. The nation desperately needed cash to build an army, navy and coastal defenses. The federal government, however, had precious little specie. Its credit standing, strong just a few years before, was now so feeble that investors, fearful of default, avoided government bonds. Moreover, sectional antagonisms threatened to tear the Union asunder. Many New Englanders protested against the war and traded with the enemy via Canada. As the war progressed and victory seemed increasingly unlikely, the nation's financial crisis mounted.

The war, which in 1813 alone cost some $20 million more than the government's revenues, forced Gallatin, to the dismay of many in his party including President Jefferson, to reinstitute many polices created under Secretary of the Treasury Alexander Hamilton and the rival Federalist Party two decades before, at the beginning of the country. This included direct taxes, the sale of Federalist-style bonds and a plea for loans from state banks. Moreover, Hamilton, in 1791, had created the Bank of the United States, a quasi-central bank with $10 million in capital and a government ownership stake of 20%, with private capital providing 80% and a 20-year lifespan. That Federalist-inspired institution was killed in 1811 over party politics, with the Jeffersonians leading the charge to destroy the Bank. Gallatin had bucked the trend in his own party trying to get the Bank re-chartered, but he was unsuccessful and unpopular for that opinion. Alarmingly for Gallatin, he now faced the crisis without a central monetary authority.

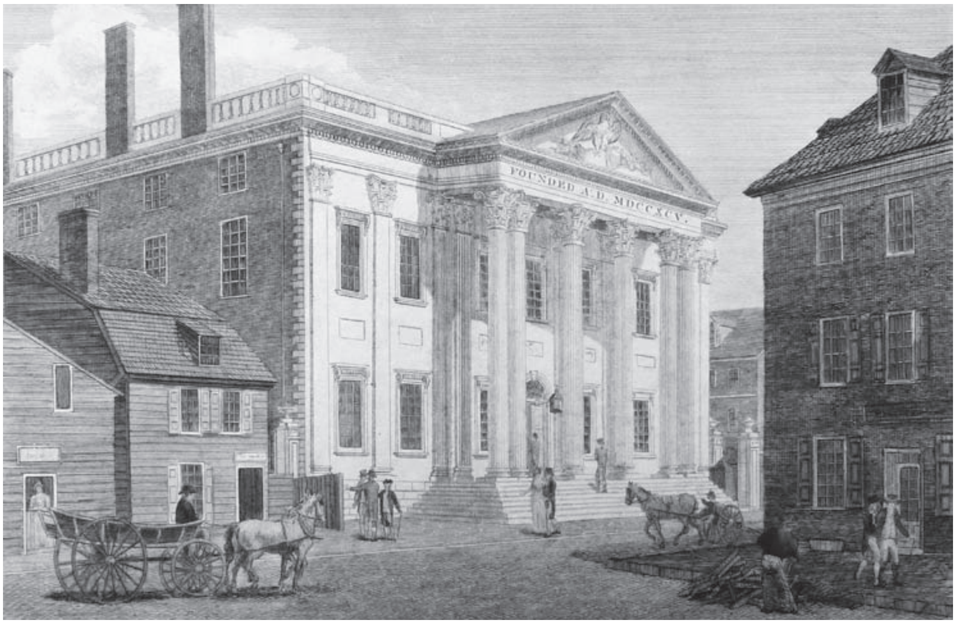
Congress's unwillingness to significantly beef up tax revenues and New Englanders' reluctance to purchase war bonds further stressed the Treasury Secretary. When the domestic capital markets appeared closed to the national government, Secretary of the Treasury Albert Gallatin was in a pinch for funds. He, therefore, turned to the bank of Stephen Girard for a loan of some $500,000. Girard was one of the wealthiest merchants in the country and had realized that a European war was coming. With foresight, he had repatriated most of his wealth. Ironically, Girard's bank was physically located in Philadelphia in the building formerly occupied by the Bank of the United States, since it closed its doors.

Treasury Secretary Gallatin added two sweeteners with his loan request to Girard: the promise of Treasury deposits, and Gallatin's word that he would attempt to influence the Pennsylvania legislature to view the expansion plans of Girard's bank more favorably. Thus far, the state banks had used their influence in the state capital to block Girard's proposals. By agreeing to the loan, Girard could kill two birds with one stone — attract lucrative Treasury deposits and get the legislature to back down.

But Girard wanted more. He asked Gallatin to place his private bank on the same level as all other state banks. That meant that Gallatin would have to cancel some pre-existing special agreements the Treasury Department had with two of the other Philadelphia banks. Gallatin balked at this last concession, and for a time the deal fell apart. But Gallatin's desperation grew deeper by the day.

Museum of American Finance

Check from Stephen Girard's private bank, 1820.



The Girard Bank, located in the former Bank of the United States building, on South Third Street in Philadelphia. The building still stands and is part of Independence National Historical Park.

On February 20, 1813, the Secretary floated a huge $16 million bond issue. The bonds matured in 12 years and offered a 6% coupon that with special enticements effectively yielded investors 7%. The $16 million was a gigantic sum, the single largest bond issue in the nation's history up to that time. The Treasury was sanguine because news from the war front was good. The US had recently scored some naval victories, credible reports of Napoleon's defeat in Russia were streaming in, and peace talks with the British appeared to be going well. But the bond issue flopped; investors subscribed for only about 25% of the sum offered, or $4 million.

Gallatin was in a bind. He was out of money and out of time, so he was willing to make a deal. European financier David Parish promised to underwrite about $2 million. Added to the $4 million already subscribed, about $10 million remained to be sold. Gallatin then turned to Girard to assist in underwriting.

Girard reiterated that Gallatin must treat his bank on equal terms to the other banks. If Gallatin agreed, then Girard would join a syndicate with Parish and wealthy New Yorker John Jacob Astor that promised to sell $10 million in bonds. Gallatin was desperate and knew the financial system needed this infusion. So he agreed to Girard's terms, which of course also included a generous sales commission.

Girard and the rest of the syndicate upheld their end of the bargain, underwriting the phenomenal sum of money. Girard kept just over $1.2 million in bonds for himself and retailed off the rest at a tidy profit. The syndicate demonstrated that specialized private sector firms were better at selling government bonds than the government itself.

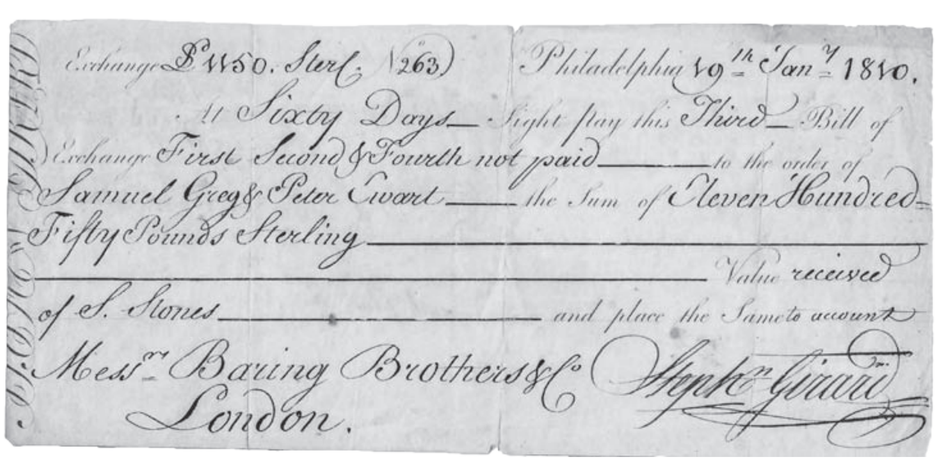
American investment banking was born, the government received the funds it needed to carry on the war, and investors received a fair yield. Perhaps most importantly, the episode exposed the chaotic nature of the US wartime financial system. Most Americans, and even some anti-bank politicians, saw the need for a new central bank.

Stephen Girard, a private citizen, resuscitated the financial system and brought to America a whole new type of financial endeavor, investment banking. Indeed, the parallels between what Girard accomplished in 1813–1814 and what investment banker JP Morgan did to stave off the Panic of 1907 are striking. Both were among the richest men in the country, and both used their personal credit, their professional reputation and their financial acumen to stave off disaster at a time when the nation suffered from the lack of a central banking authority.

It was a good thing that Girard intervened when he did or the financial system may have died soon after the British razed Washington in August 1814. Indeed, the resulting panic forced banks outside of New England to suspend specie payments. Specie suspension was the first step downward on the slippery slope to economic ruin. What the nation needed was a new central bank, so that is precisely what Girard and other financial capitalists, like Astor and Parish, advocated for.

Gallatin and a few others sailed off to Europe to negotiate for peace on behalf of the US government. He eventually resigned his post as Treasury Secretary on February 8, 1814. Gallatin's replacement at the Treasury was Philadelphian James Alexander Dallas, one of Girard's few friends. Dallas, Girard and others urged Congress to incorporate a new Bank of the United States. In the meantime, Girard, in exchange for Treasury deposits, began to make a market (buy and sell to brokers) in Treasury notes. In short, Girard and his private bank began to serve some of the functions of the old central bank, prompting one biographer to label him the "Rothschild of America."

But Girard knew that his resources were insufficient to go it alone. He could not shoulder all of the Republic's finances alone. He drafted a plan for a new central bank and presented it to Congress. By the time it emerged from committee and



Exchange £1150. Sterl. (263) Philadelphia 19th Jany 1810.
At Sixty Days Sight pay this Third Bill of
Exchange First Second & Fourth not paid to the order of
Samuel Greg & Peter Ewart the Sum of Eleven Hundred
Fifty Pounds Sterling
Value received
of S. Stones and place the Same to account
Messrs Baring Brothers & Co Stephen Girard
London.

Sight draft for £1,150 signed by Stephen Girard.

Museum of American Finance

went to the floor for a vote, the bill was greatly changed. Committee members had made multiple alterations, many of which Girard detested. For instance, the revised bill did not restore the specie standard and was little more than an attempted revenue grab. Girard was pleased, therefore, when Madison vetoed his altered brainchild.

The War of 1812 ended with the signing of the Treaty of Ghent on December 24, 1814, but the American financial system was still on a shaky foundation. Girard and Dallas pressed once again for the incorporation of a new central bank. With the aid of future Vice President John C. Calhoun, the "yeas" carried the day. On April 10, 1816, Madison signed into law a national charter for the Second Bank of the United States. Like the earlier bank (now referred to as the First Bank of the United States), the government would have 20% ownership in the institution, but this time the capital would be $35 million instead of $10 million. Hamilton's creation had been cloned, three and a half times over!

Another irony of this story is that Republicans — from Girard to Gallatin, and Madison to Calhoun — created what was far and away the largest bank in the country; the next largest bank at that time was infinitely smaller, the Citizens Bank of Louisiana with $12 million in capital. Most history books will say that the Republicans were anti-bank, but most Republicans loved banks as long as they were under their control.

Gallatin continues to hold the record for the longest tenure as Treasury Secretary in US history. He made his share of friends and enemies on both sides of the political aisle, and his support of the First Bank of the United States was politically costly. But, like Alexander Hamilton in the 1790s, his actions were immensely important to America's subsequent economic growth.

Historians have often highlighted the sharp differences between Federalists and Republicans, with Hamilton's philosophy on one end of the spectrum and Thomas Jefferson's on the other. However, with respect to the country's finances, Gallatin set the important precedent that Treasury Secretaries were to be guardians of the financial system and the economy first and foremost, above any party affiliation. He supported, used and expanded on the financial framework put in place by Hamilton, including a central bank, a unit of account defined in specie, a system of corporate intermediaries (banks and insurers), securities markets and the use of private syndicates to raise public funds.

Though Gallatin failed to win a charter for a new national bank before leaving for the peace talks — itself an important mission for the financial sector — he planted the seeds that others, like Stephen Girard, would champion and grow into the Second Bank of the United States.

Today, 200 years later, we again hear voices of those calling for the abolishment of a central bank. Those politicians and pundits ought to review what Secretary Gallatin, Stephen Girard and others faced in 1812 without one, and all of the subsequent difficulties financing the country in a period of wartime exigencies. $

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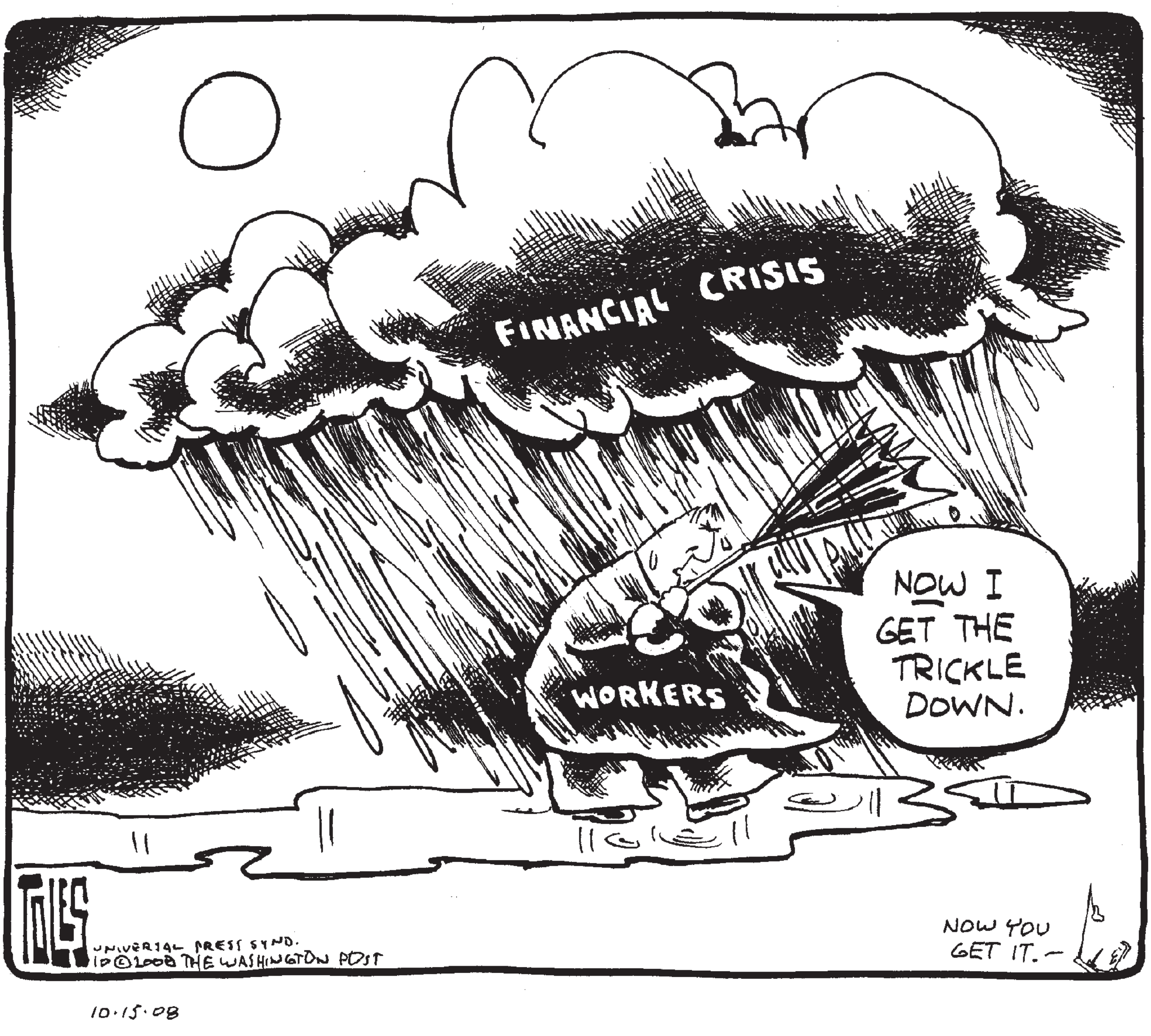
THE GREAT RECESSION

By Charles Geisst



While it may be true that history does not exactly repeat itself, the events occurring during the recent credit crisis would have been familiar to anyone who lived through the 1929 crash and the depression. The well-worn cliché certainly gives validity to the more accurate idea that events seem to re-occur because of the limited universe of possibilities and events that combine to produce a financial crisis.

In just two short years, Wall Street had experienced more tumultuous events than at any other time since 1929. The collapse of the credit markets in 2008 and the sharp drop in the stock market indices helped Barack Obama win the presidency, as it appeared that desire for economic and social change was in the air after eight years of a Republican presidency. The events of 2008, in particular, were eerily reminiscent of 1932 in the markets. The following two years also displayed significant parallels to 1933 and 1934.

The parallels were striking because it became apparent that, as in 1929, Wall Street had created the crisis through its disregard for investors and the manufacturing of securities, to use Charles Mitchell's original phrase. Lack of due diligence by investment bankers helped create the conditions for the market crash in 1929 and would prove a decisive element in financial reform after 2009. Poor collateral pledged against mortgage securities was the culprit, again demonstrating that banking oversight was sorely lacking. The 1920s and 1930s had no effective regulator to monitor the process, and the same proved true in the contemporary period after 1999.

The early 1930s and the early 2000s also shared another trait that would surface again. Bankers in the 1930s, as their counterparts in the 2000s, had no effective critics to check their activities. Wall Street figures again were in the limelight, as they had been 80 years before, treated as celebrities who reigned over an industry that had lost most of its meaningful regulation. Goldman Sachs partners replaced those from J.P. Morgan & Co. as advisers to government, while the media doted on mutual fund managers, bankers and corporate chief executives as the latest prophets of wealth and the architects of a new economy that would only rise from year to year. But the events of 2009 quickly caused an about-face that challenged Wall Street rather than praised it.

Joseph Schumpeter's notion of capitalism's tendency toward creative destruction was not a concept that critics of Wall Street embraced as the aftermath of the credit market and mortgage crises became clear any more than social Darwinism was widely embraced in the 19th century. Ironically, however, the great historical discrepancies between wealth and income in the United States began to be mentioned again, as they had in the 1930s. During the Great Depression, Marxist criticism gained some popularity because it highlighted the inequalities in society. In the 2000s, similar criticisms were heard, and the question of whether financial capitalism could survive the economic turmoil began to be raised again. Such an idea would have been ruled absurd 10 years before, despite the dot com bubble bursting and the follies of Enron and WorldCom.

The vast discrepancies in annual income, in particular, began to draw attention as the popular tide turned against Wall Street. For several years, critics had inveighed against tax breaks given to hedge fund managers and those in private equity whose annual income effectively was taxed at the long-term capital gains rate of 15%. As the institutions receiving TARP capital infusions became more widely disseminated, the idea of tax favoritism was viewed as highly repugnant at a time when home mortgage foreclosures were at historically high levels.

At the same time, some hedge fund managers made substantial profits effectively shorting the market for residential mortgages while mortgage holders were in poor economic straits, recalling the bear raids of the early 1930s. This was in stark contrast to the appearance of tent cities, the contemporary version of Hoovervilles, in areas most ravaged by the foreclosure crisis. It was difficult to draw realistic or meaningful parallels between the profitability of John Paulson's hedge fund and the aggregate value of average workers' paychecks. Attempts of that sort had been made before in the 1930s, but the comparisons were considered too inaccurate and polemical to be of any real value. Yet it was clear that vast discrepancies existed.

In the early 20th century, discussions about the discrepancies of wealth in the United States usually emphasized the wealth of a small portion of the population compared with the rest of the country. Usually, the top 5–10% of the highest paid held around 90% of the country's assets. It sometimes was difficult to determine who fell into that top group, individuals or corporations. Gustavus Meyers raised the issue, citing interlocking directorships as evidence of highly-paid elites. The Pujo Committee extended the comparisons using corporations as its starting point before World War I, and Adolph Berle and Gardiner Means extended the analysis again in 1932.

But it was the socialists who made the analysis on a personal income or household income basis. In 1936, in *Rulers of America*, American socialist writer Anna Rochester noted that a small fraction of American families (1/10 of one percent) at the top of the income scale received as much as 42% of families at the bottom of the scale. At the time, that meant those earning $75,000 per year or more at the top versus less than $1,500 at the bottom. In the 1920s, that sort of discrepancy was described as being offset by the percolator theory, or "trickle down" economics. A similar case was made after 2009, although not very successfully.

A similar discrepancy in income was shown by the Congressional Budget Office (CBO) 75 years later. In a report comparing trends in household income between 1979 and 2007, the CBO came to a similar conclusion: "For the one percent of the population with the highest income, average real after-tax household income grew by 275% between 1979 and 2007…for the 20% of the population with the lowest income, average real after-tax household income was about 18% higher in 2007 than it had been in 1979."

The top 20% was the only group actually registering gains throughout the period. Earlier, the discrepancies evoked Marxist remarks about surplus value falling into the hands of capitalists. The contemporary analysis was more specific. The CBO went on to say that "even accounting for the education and skills of the workforce, the compensation differential

between the financial sector and the rest of the economy appears inexplicably large from 1990 onward… deregulation and corporate finance activities linked to initial public offerings and credit risk are the primary causes of the higher compensation differential."

In short, Wall Street compensation certainly was responsible for some of that discrepancy.

Initial public offerings (IPOs) were only part of the picture as the credit market crisis continued in 2009. The crisis had a serious impact on the capital-raising process in both equities and new corporate debt offerings. All new stock offerings, including IPOs, diminished from $206 billion in 2008 to $131 billion in 2010. New corporate bond offerings actually increased from $861 billion to $983 billion during the same period. But the numbers belie the fact that $2.3 trillion worth of new corporate bond offerings were sold in 2007 and $169 billion of new stock.

Many of these latter bond issues were mortgage-related securities, so when that market collapsed it became apparent that mortgage-related financings had dominated Wall Street debt offerings in recent years. Other parts of the securitization (asset-backed) market also fell significantly as institutional investors began to question the quality of the collateral pledged to bonds, especially in light of the controversy over the credit ratings agencies and their analysis of the CMO market.

The dominance of what earlier 20th-century writers called finance capitalism also could be seen in the statistics. Of the new corporate bonds issued prior to 2008, 75% were issued by financial institutions. The same institutions accounted for 50-60% of new stock issues. The economy had been dominated by Wall Street, and when retrenchment came, it took a heavy toll.

The decline in collateralized mortgage obligation (CMO) issues in particular meant that spending by homeowners would be curtailed as mortgage financing became scarce and writing checks against home equity declined. Before the crisis, consumer spending had risen to almost 80% of GDP. In 1929, it reached about 67% and had held steady for decades, establishing a trend for the economy. Now that a major source of credit for that spending had been curtailed, what became known as the Great Recession soon followed.

The shadow banking system demonstrated that it was incapable of maintaining stability after the excesses of the 2000s. Investors responded to the crisis by refusing to purchase securitized bonds of any type, and that market began to dry up quickly. Commercial paper was being supported by the Fed. Once venerable Wall Street institutions such as Morgan Stanley and Goldman Sachs now were officially commercial banks. After the post-1999 deregulation party, Wall Street was forced to sober up. But anyone predicting that banking attitudes or behavior would change would be surprised in the following years, since banking hubris did not abate despite the rapidly changing economic climate.

The aftermath of the Lehman dissolution displayed another irony for which Wall Street was fast becoming known. In 2009, Barclays Capital, the US subsidiary of the British bank, was voted first in the Wall Street analysts' league tables by *Institutional Investor* for its bond rating abilities. Barclays achieved the distinction after absorbing some of Lehman's fixed income operations and more than a dozen of its top bond analysts. In fact, four other banks whose analysts scored well in the same league table were recipients of TARP funds at one stage or another during the crisis. While their customers apparently were impressed with their analytical abilities, Wall Street firms again proved they were better at sell-side analysis than they were at admitting or solving their own internal problems.

Another parallel to the 1930s was seen in the manner in which Wall Street handled the crisis. A lack of leadership was clearly evident as the Street came under increasing criticism for causing the crisis, all the while denying any role. A few senior bank executives went on record by talking about the crisis, but many of the remarks were purely tendentious, as they had been 75 years before.

The top CEOs went on record dozens of times inveighing against the need for any further regulation of Wall Street. Similarly, the CEOs of the large, failed savings bank mortgage lenders continued to blame everyone else for the misfortunes of their companies rather than focus on the misery caused hundreds of thousands of foreclosed homeowners. When public hearings finally were convened to investigate the crisis, the chorus of complaints and denials only grew louder. It would become demonstrably clear that Wall Street CEOs had been practicing what Ferdinand Pecora once called "low standards in high places."

The crisis also had a severe effect on the financial services industry in general. The Financial Crisis Inquiry Commission, assembled in 2008 to examine the crisis, noted that a total of 583,000 financial services jobs had been lost between 2008 and 2009. Wall Street firms fared slightly better, however, losing around 200,000. While jobs were lost, a record $61.4 billion in securities industry profits were recorded in 2009 after $54 billion of losses in 2007 and 2008. Similarly, commercial bank profits rose from $7.6 billion in the first quarter of 2009 to $18 billion in the first quarter of 2010.

Of those industry jobs lost, a heavy proportion was on the mortgage side of the business. Mortgage originators were among the first in finance to suffer from the crisis, but eventually Wall Street would shed employees as well. The job losses provided a glimpse into the pipeline that had caused the crisis. In good times, the idea that one sector of the economy leads toward a bubble is usually overlooked in favor of a multitude of causes considered to be contributing to the general prosperity. But when the mortgage bubble burst, taking the credit markets and the stock market with it, it became clear that the early 1930s and the late 2000s had a common factor that was overlooked during both bubbles. Easy credit, and especially consumer credit, dominates the economy and, when overextended, can provide the catalyst for a rapid decline in assets values across the board. $

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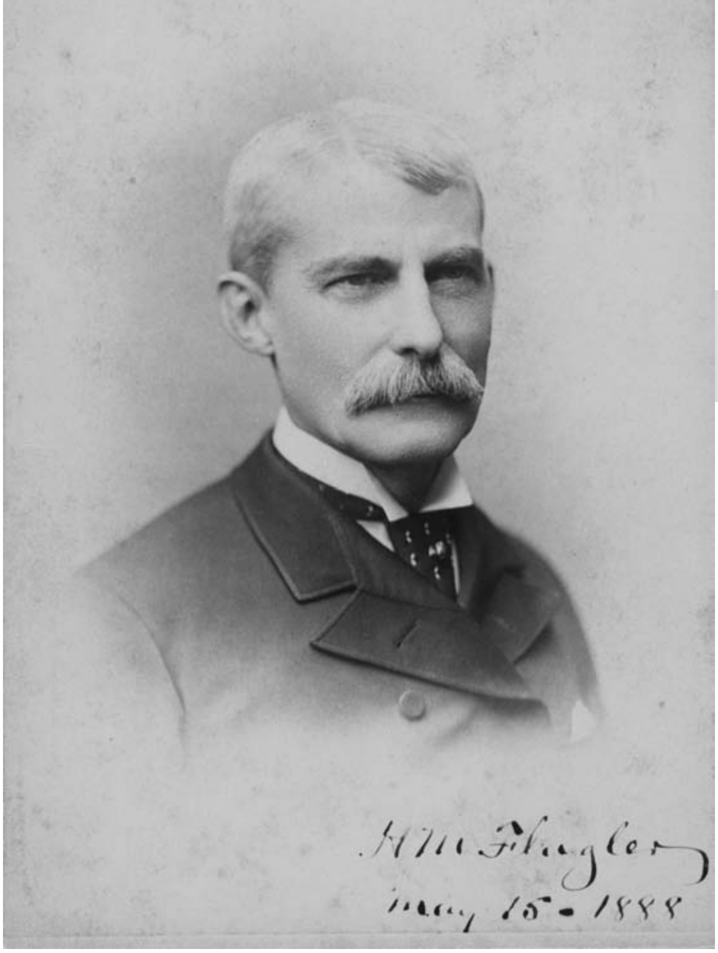

Henry Morrison Flagler, May 15, 1888.

HENRY FLAGLER, STANDARD OIL AND THE 1870s OIL WAR

BY ALAN LAVINE

Henry Morrison Flagler is most closely associated with the development of Florida, its railroads and luxury hotels. Called the father of Palm Beach and Miami — playgrounds of the rich and famous — he is honored on the exclusive island of Palm Beach with a stately 125,000 square foot museum.

But less may be known about Flagler's business life, and the wheeling and dealing that he, as second in command at Standard Oil Corp., used to gain control of the nation's oil business. In fact, Flagler was credited with spearheading an all-out oil refinery war, dubbed, "The Cleveland Massacre," in the late 19th century.

With only an eighth grade education, Flagler drew up Standard Oil's incorporation papers in 1869.

Flagler and John D. Rockefeller had met in Ohio, where both had been grain merchants. Rockefeller left his job to start an oil refinery in 1867. In need of capital, Rockefeller approached Flagler, who obtained $100,000 from his brother-in-law, Steven Harkness.

In return, Flagler received some 25% of the stock. A partnership, involving Flagler, Rockefeller and Samuel Andrews, in 1870, became the joint-stock corporation, Standard Oil. They issued 10,000 shares of stock at $100 per share and raised $1 million. A chunk of the company's capital was used as a war chest for mergers, buyouts or as a cushion to cut prices and put others out of business.

Cleveland was the nation's oil refinery hub, and by 1870 Standard Oil was already the world's largest oil refiner.

At Standard Oil, Rockefeller was known as the idea man. Flagler, 37, and nine years his senior, was the man of action — an adroit strategist and skilled negotiator.

Rockefeller indicated that the tenacious Flagler, whose idea it was to incorporate Standard Oil, was the brains behind the company. When once asked if Standard Oil was his idea, Rockefeller responded: "No sir. I wish I'd had the brains to think of it."

The Rockefeller-Flagler game plan was for Standard Oil to be a large company that benefitted from economies of scale. There was a huge worldwide demand for kerosene, primarily used for lighting. The United States was consuming more than 200 million gallons of oil annually. Oil exports totaled 418 million gallons by 1880.

In those days, anyone could refine oil for as little as $10,000 — the equivalent of starting a small business today. All you needed was a large vat, sulfuric acid, stills and pipes.

Standard Oil had a large plant in Cleveland, which was relatively close to the oil fields in northwestern Pennsylvania. The company had easy access to the Erie Canal via Lake Erie and two railroads — Lake Shore, owned by the Erie Railroad, and the Atlantic & Great Western Railroad, owned by the New York Central Railroad. Standard Oil owned two warehouses in New York City and used its own boats to transport oil from the rail cars to the warehouses. Standard Oil made its own barrels, and produced the sulfuric acid used in the refining process. Later in the decade, the company owned tank cars and pipelines.

Although in the 1870s Standard Oil was the nation's largest oil producer, it was in a viciously competitive business.

A freight price war had broken out between the Erie Railroad, owned by

Museum of American Finance

Standard Oil stock certificate signed by Henry Flagler and John D. Rockefeller, 1878.

Cornelius Vanderbilt, and the New York Central, owned by Jay Gould.

Flagler took advantage of the oil glut and price war to ink a deal with the Lake Shore Railroad. The railroad agreed to cut shipping rates to $1.65 a barrel from $2.40 in exchange for guaranteeing Lake Shore the shipment of 60 carloads of refined oil daily to New York.

However, Standard Oil failed to produce enough oil to meet its 60 barrel-a-day obligation. So Flagler arranged for Standard Oil to broker the oil of other Cleveland refiners to meet that quota. Meanwhile, their other Standard Oil partner, Andrews, was based in New York to handle exports.

Rockefeller and Flagler next sought to eliminate competition. In 1872, they had increased the company's capitalization from 10,000 shares to 25,000 shares at $100 per share. Rockefeller purchased 3,000 shares and Flagler bought 1,400 shares.

The remaining shares were used to acquire or buy out competing refiners. It is estimated that $440,000 was spent in their quest.

In one key move, they gave Peter H. Watson, president of Lake Shore Railroad, 500 shares of Standard Oil. The move paid off handsomely. Watson later became president of the South Improvement Company, a corporation created by the Pennsylvania legislature in 1871 to help stop freight price cutting and restore profits to the railroads. The company's members were permitted to hold stock of other companies with no restrictions.

South Improvement Company guaranteed each railroad a specific quantity of oil shipments.

An agreement, under Watson's presidency, permitted railroads to raise their rates, but required rebates to Standard Oil and other large refiners in return for guaranteed shipments.

The railroads, which normally charged $2.80 per barrel, rebated 90 cents a barrel to the large refiners in an arrangement that hurt non-members.

It was Standard Oil's involvement in the South Improvement Company that sparked the "Oil War of 1872."

Word of the scheme leaked out when a Pennsylvania Railroad employee mistakenly posted individual refiner shipping rates on the wall of his Oil Creek, PA, railroad station while his supervisor was away. When it became clear that members of the South Improvement Company paid lower rates, the *Cleveland Plain-Dealer* reported the discrepancies. An article appeared in February under the headline, "The Petroleum Ring."

The following uproar prompted the Erie and New York Central Railroads to withdraw from the South Improvement Company.

The next day, 3,000 "gesticulating oil men," including producers, brokers, drillers, refiners and pipers, gathered at the Titusville, PA, opera house, wrote Ida Tarbell, dubbing the incident the "Oil War of 1872" in *McClure's Magazine*. They formed the Petroleum Producers Union, boycotted the railroads, and drillers who sold to the South Improvement Company were beaten.

At the opera house, 30 were arrested and the newspapers printed a black list of the refiners who participated in the South

Improvement cartel. Standard Oil's shipments on the Pennsylvania Railroad were sabotaged. Death threats prompted Rockefeller and Flagler to each hire 24-hour armed guards.

Three days later, the Petroleum Producers Union agreed to cut production by starting no new wells for 60 days. They also agreed to shut down on Sundays and refused to sell oil to anyone associated with the South Improvement Company.

The independents boycotted railroads and threatened to build their own lines. The Petroleum Producer's Union formed a committee to ask the Pennsylvania legislature to revoke the South Improvement Company's charter. Another committee requested a federal investigation.

The 60-day boycott had caused the oil business to come to a screeching halt. Plants were closed and railroads lost revenue. Pennsylvania railroad workers went on strike, and there were reports of sporadic violence.

Within about two months, the state of Pennsylvania revoked the South Improvement Company charter. The independent refiners resumed production on April 15.

Standard Oil may have lost the battle, but it won the war. The South Improvement Company tactic showed Flagler that he could continue making acquisitions and control all aspects of the oil refinery business.

"Although South Improvement Company had technically failed, it had well served Standard Oil's purpose," said Edward N. Akin, in his book, *Flagler: Rockefeller Partner and Florida Baron*.

From 1872 through the end of the decade, Flagler continued to cut deals with the railroads by guaranteeing delivery of a specific amount of oil for a rebate on the price. He also was instrumental in merging large independent refiners in Philadelphia, Pittsburgh and New York, as well as companies that had access to oil pipelines.

In 1877 and 1878, Flagler, amid a threat to ship oil exclusively by pipeline, cut shipping price deals with the Pennsylvania, New York Central, Erie and Baltimore & Ohio Railroads. By 1878, however, all the railroads had to pay Standard Oil a rebate of 20-35 cents a barrel for any oil shipped by non-Standard Oil refiners.

By 1882, Standard Oil had become so large that it had to change from a corporation to a trust, facilitating its ability to operate in different states. The trust was capitalized for $70 million. Two years later, the company moved its headquarters to 26 Broadway, in New York City.

By the end of the 1880s, Flagler's dealing resulted in Standard Oil controlling 90% of the US refined oil market.[1]

Unfortunately, the Standard Oil party did not last. In March 1882, the Ohio Attorney General won an antitrust lawsuit against Standard Oil, forcing the trust to dissolve. Standard Oil was split into 20 companies in different states. In reality, this had no impact on the business bottom line. But in 1911, the US Supreme Court ruled that Standard Oil had violated the Sherman Antitrust Act. The company was broken up into 34 new companies. Today, those companies consist of Conoco, ExxonMobil, BP and Chevron.

Although Standard Oil was portrayed in the media as a ruthless, capitalistic company, the monopoly benefited the public by lowering costs. Based on 2009 dollars, the price of oil dropped between 1872 and 1897 to $30 per barrel from $80 per barrel.

Investors also benefited. By 1905, Standard Oil had paid out about $50 million in dividends on earnings of nearly $100 million.

Flagler might have been a tough businessman, but he also enjoyed an active private life. He was an avid reader, and he liked a good cigar and a good drink on occasion. He kept in regular contact with a group of close friends and relatives and was reputed to be very generous to struggling relatives and the downtrodden.

"He was a modest and private individual," said Susan Swiatosz, archivist at the Flagler Museum in Palm Beach, FL. "His letters show that he had a gentle sense of humor; however, if the occasion warranted, he would speak his mind. He spent a tremendous amount of his resources building infrastructure as well as places of worship and learning throughout the State of Florida."

Flagler experienced much adversity. Two of his daughters and his first wife died during his lifetime. He divorced his second wife due to her serious mental illness in 1901. He remarried the same year and as a wedding present to his new wife, Mary Lily Kenan, he built Whitehall, originally a 75-room 100,000 square foot Gilded Age mansion in Palm Beach, for their winter retreat. The expanded mansion is currently home to the Flagler Museum, a national historic landmark. Flagler died at age 83 in 1913 after tumbling down the stairs at Whitehall. His worth in today's dollars would be $22 billion. $

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Note

1. By 1911, Standard Oil's share of the refined oil market was down to 64%. It should also be noted that between 1869 and 1897, the price per gallon of refined petroleum fell from 30 cents to under six cents, due to efficiencies and competition.

Sources

Akin, Edward N. *Flagler: Rockefeller Partner and Florida Baron*. University of Florida Press, 1991.

Briscoe Center for American History, University of Texas at Austin. "A Guide to ExxonMobil Historical Collection, 1790 to 2004, Part 1." Texas Archival Resources Online.

Bryan, Dan. *The Cleveland Massacre*. AmericanHistoryUSA.com.

Cleveland Plain Dealer Historical Archives, February 1, 1872 through May 30, 1872.

Henry M. Flagler Museum, Palm Beach, FL.

Forbes magazine list of wealthiest historical figures, 2008.

Lloyd, Henry D. "Story of a Great Monopoly." *The Atlantic*. March 1881.

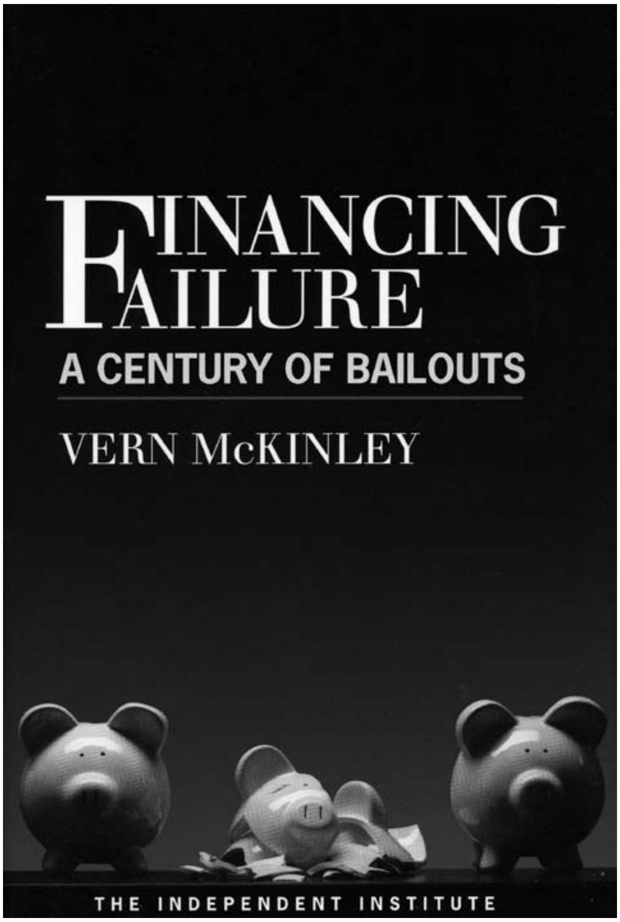
Martin, Sidney M. *Florida's Flagler*. The University of Georgia Press, 1949.

Poole, Keith T. *Henry M. Flagler*. University of Georgia, 1982.

Tarbell, Ida M. "The Oil War of 1872." *McClure's Magazine*, January 1903.

 BY MICHAEL A. MARTORELLI

Financing Failure: A Century of Bailouts



By Vern McKinley
The Independent Institute, 2011
381 pages, $17.00

History shows the federal government has arranged bailouts for plenty of financial institutions from 1933 to 2009. Reasonable people can disagree over the need for those actions, and for the counterfactual history that would have occurred had the Reconstruction Finance Corporation *not* taken control of many banks in 1933, or had Congress *not* approved the Troubled Asset Relief Program (TARP) in 2008.

In his provocatively-titled *Financing Failure: A Century of Bailouts*, Vern McKinley argues such interventions have been ill-conceived and undesirable. Moreover, he suggests government policies have been at least partially responsible for the very existence of the problems encountered by the financial institutions that sought and received federal help.

Anyone trying to understand the nature of this problem will benefit from reading McKinley's critical examination of the analyses policy makers considered (or didn't consider) as they struggled to deal with succeeding financial crises over the past several decades.

The core of *Financing Failure* is McKinley's blow-by-blow descriptions of important banking crises that occurred from 1918 to 2008, and the government's decisions to provide bailouts to various financial institutions. Since these crises usually occurred after long gaps of time, it is not surprising to read how regulators failed to learn from the actions of their predecessors.

McKinley suggests in each of the most far-reaching crises, a government policy gone wrong had the unintended consequences of helping spawn a period of distress that not only threatened the existence of some large financial industry players, but also imperiled the entire economic system. In each case, regulators and lawmakers took aggressive actions to stem the crisis. They also went to great lengths to justify their assistance of the troubled firms, and then moved swiftly to change the prevailing rules so that such an emergency would not occur again. Any reader disappointed at the brevity of McKinley's versions of his selected crises will welcome his extensive use of footnotes, which spotlight a plethora of sources describing additional details about those problems.

McKinley traces the government's proclivity to bailing out troubled financial institutions to the creation of the War Finance Corporation (WFC) in 1918. That agency enabled banks to continue providing credit to manufacturers contributing to the prosecution of World War I. In 1931 and 1933, Presidents Hoover and Roosevelt oversaw the creation and expansion of a similarly-structured Reconstruction Finance Corporation (RFC), which injected capital into banks suffering the effects of the Depression.

The author follows the government's subsequent *ad hoc* efforts to provide financial support to failing banks in selective periods of economic distress during the 1970s and 1980s. He notes the emergence of strong but unsubstantiated arguments warning that extensive interbank exposure would cause the failure of one institution to trigger a calamitous cascade of failures among many more counterparties.

Indeed, in supporting the bailout of the large depositors, unsecured creditors and correspondents of flawed and failing institutions such as Franklin National (1974), First Pennsylvania (1980) and Continental Illinois (1984), regulators signaled openly

their desire to avoid such unpredictable but inevitable failures on the part of other institutions.

McKinley is highly critical of the seat-of-the-pants and undocumented analyses done in support of those bailouts. His extensive footnotes describe subsequent Congressional criticism of those analyses, and the suggestion by both regulators and legislators that some banks had earned the infamous sobriquet "too big to fail" (TBTF) by 1984.

In discussing the events of 2008 and 2009, McKinley makes extensive use of the contemporaneous writings of journalists, the investigative reports of public and private organizations and the material in the first wave of crisis-related books written by participants and observers. He uncovers few new facts, and notes that even his Freedom of Information Act (FOIA) lawsuits were generally unsuccessful in bringing more transparency to the government's deliberations.

Yet, by recounting the attempts to cope with the problems of Bear Stearns, Lehman, AIG, et al. in close juxtaposition with the prior discussions of an earlier era's concerns about the TBTF problem, McKinley adds considerable strength to his core argument about regulators' inability to learn from history.

His final chapter reinforces the book's key message: the crises have been different, but the policy decisions made in their wake have been depressingly similar, and unable to prevent future problems. It's a compelling argument. $

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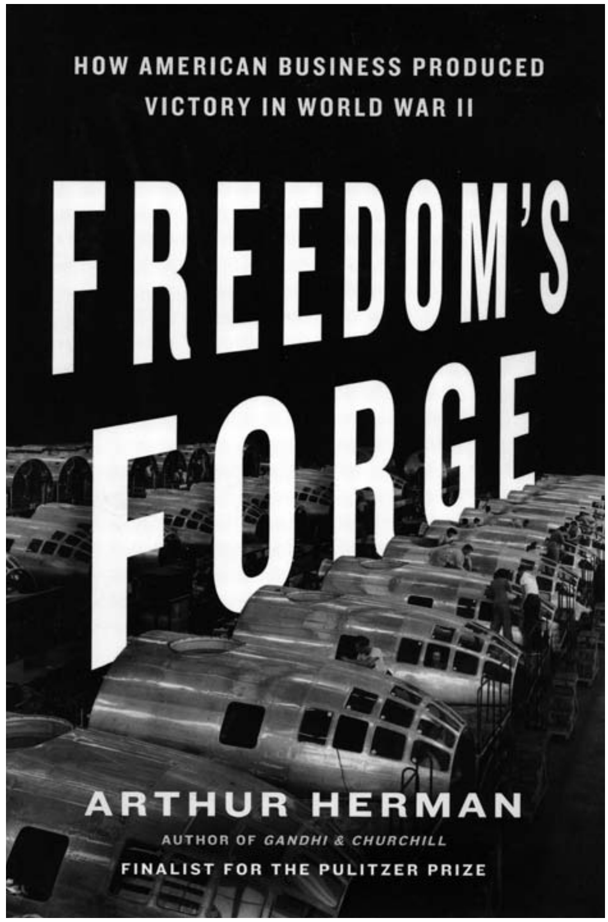
Freedom's Forge: How American Business Produced Victory in WWII



By Arthur Herman
Random House, 2012
432 pages, $28.00

The vast body of literature describing how the Allied armies and navies vanquished the Axis powers in World War II includes few works focusing on the systems of production that manufactured the planes, tanks, ships, rifles and thousands of other pieces of armament and equipment necessary to support that task. Arthur Herman fills this void with *Freedom's Forge: How American Business Produced Victory in World War II*, a masterful look at American industry's performance before and during the years that war raged across the globe.

He particularly highlights the accomplishments of William Knudsen and Henry Kaiser, two businessmen who refused to let isolationist Congressmen, meddlesome bureaucrats and intransigent union bosses prevent them from helping make America the "Arsenal of Democracy."

The American economy was neither vibrant not prostrate in May 1940 when President Franklin D. Roosevelt took his first tangible steps to prepare the country for war. As Assistant Secretary of the Navy in 1918, FDR had watched just one man (Bernard Baruch) transform that era's War Production Board from an entangled bureaucracy to an efficient organizer of industry's productive efforts.

He ascertained from advisors that General Motors executive William Knudsen was the one man capable of performing a similar function in preparation for another world war. Herman explains how the President made Knudsen not a powerful production czar with clear authority,

but only one of seven members of the National Defense *Advisory* Commission. Knudsen soon emerged as the group's *de facto* leader and began to organize industry's voluntary efforts to divert some capacity to producing armaments.

The book details Knudsen's successes and failures as he pursued the single-minded goal of boosting the output of all types of military goods while maintaining some production for the civilian economy. As an experienced manufacturing executive, he knew the most important challenge was not to deliver a certain number of planes or tanks by a certain date (the goal of the top-down-thinking political class), but to establish a bottom-up system of contractors and sub-contractors who would be mobilized and incentivized to build a production machine capable of sustaining itself over the long haul.

Without his efforts from mid-1940 to late 1941, neither the United States nor its allies would have had sufficient stores of weapons, vehicles and other equipment to wage the extended war that overwhelmed the world after the attack on Pearl Harbor.

With few political instincts, Knudsen was ill-equipped to handle the steady diet of protests and disagreements coming from bureaucrats, politicians and union leaders who viewed his ideas with suspicion or disdain. Indeed, that naiveté prevented him from understanding the widespread anger at some of his actions and caused him to be blindsided when he was unceremoniously dumped from his position in January 1941.

By that time, American industry had produced more than 19,000 planes, 3,900 tanks, and 1.1 million tons of merchant shipping, quantities considered unattainable to government planners less than two years earlier. The President preferred to have a formally-appointed War Production Board take over the next stage of the manufacturing challenge.

Knudsen was at once emasculated and resuscitated; at the urging of some officials who appreciated the man's worth to the war effort, Roosevelt made him a Lieutenant General and asked him to be an unofficial facilitator and troubleshooter for the War Department's Materiel Command. From that perch, Knudsen continued to influence the production of war material until June 1945. A limited list of such output includes more than 88,000 tanks, 324,000 planes, 257,000 artillery pieces, 2.4 million trucks and 41 billion rounds of ammunition.

Henry Kaiser was a construction contractor with a track record of success in building roads, canals, tunnels and dams. In October 1940, he used his prior dealings with the US Maritime Commission to win a contract to build a new class of cargo ships for England; he also had to build the shipyards to construct them. Herman describes how the politically astute Kaiser spent the next few years receiving contracts to build additional varieties of both shipyards and vessels.

Along the way, he pioneered construction methods that remained the standard for decades and expanded the work force to include previously untapped groups, such as African Americans and women.

This flamboyant ringmaster also made some colossal mistakes. Herman chronicles his problems with cracking Liberty Ships, under-armored baby flattop carriers, and the expensive and embarrassing Spruce Goose. But he also notes that Kaiser and his colleagues oversaw the production of 141 aircraft carriers, eight battleships, 807 cruisers and destroyers, 203 submarines and more than 52 million tons of merchant shipping.

Herman tells most of his numbers-filled story of American industry's remarkable record of production from 1940 to 1945 largely through the exploits of just two men. But he also points out they were joined in their hard work by a small army of designers, engineers, military officers, government officials, corporate managers and production workers.

It's high time all those unsung heroes of World War II received the proper recognition for their accomplishments. **$**

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HOW MUCH DO YOU KNOW ABOUT FINANCIAL HISTORY?

TRIVIA QUIZ

By Bob Shabazian

1. The first transcontinental railroad in the United States, completed in 1869, was built primarily by which two companies?

2. Social Security is planning to phase out the mailing of paper checks in favor of electronic distribution. When did Social Security first pay out benefits?

3. Facebook's recent IPO was the third largest in US history. Name the top two.

4. What three companies were combined in 1901 to form US Steel Corp., the world's first billion dollar company?

5. What law, repealed in 1974, made it illegal for Americans to own gold?

6. The median net worth of the average American family dropped in the last five years to $77,300. What was that figure in 2007?

7. When paper notes issued during the American Revolution became worthless after the war, it gave rise to what expression?

8. The first constitution of the New York Stock and Exchange Board, adopted in 1817, imposed a fine of how much for brokers who talked loudly about other subjects while stocks were being traded?

9. In mid-October 1929 — about a week before the historic crash — who said stocks had reached "a permanently high plateau?"

10. How long does the average $1 bill last before it is considered too worn to keep in circulation?

1. The Union Pacific, building westward, and the Central Pacific, building eastward **2.** January 1, 1940 to Ida May Fuller of Ludlow, VT in the amount of $22.54 **3.** Visa ($19.7 billion in 2008) and General Motors ($18 billion in 2010) **4.** Carnegie Steel Co., Federal Steel Co. and National Steel Co. **5.** The Gold Act of 1934 **6.** $126,400 **7.** Not worth a continental **8.** Six cents **9.** Irving Fisher, a well-known economist in the early 20th century **10.** 22 months

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Cutting ice from a lake, circa early 20th century.

Dr. Dan Cooper is the president of Active Learning Technologies. Brian Grinder is a professor at Eastern Washington University and a member of Financial History*'s editorial board.*

Notes

1. A better answer would have been, "I don't know," but MBA students, like most people, will rarely admit that they don't know something.
2. Tudor had been sent to debtor's prison in 1809 and 1812. In the early years of his ice venture, Tudor basically resorted to sneaking in and out of Boston in order to avoid being sent to debtor's prison.
3. Had he thought of combining the two, perhaps the first Starbucks would have opened in Boston in the 1830s instead of in Seattle in 1971.
4. Dickason (1991) lists several reasons for British intolerance to the heat of India which include (1) huge meals that included lots of meat, (2) heavy alcohol consumption and (3) obesity. Furthermore, Victorian attitudes about modesty precluded British subjects in India from lounging about in the 19th century equivalent of shorts and tank-tops.
5. Weightman (2003) contends that "the British community in Calcutta played a big part in wiping out his coffee debt." Profits from Calcutta alone netted Tudor about $220,000 in profits during his life.

Sources

Anderson, Oscar E. *Refrigeration in America: A History of a New Technology and Its Impact.* Princeton, NJ: Princeton University Press, 1953.

Bean, Susan S. "Cold Mine." *American Heritage* 42, 71. 1991.

Cummings, Richard O. *The American Ice Harvests; A Historical Study in Technology, 1800–1918.* Berkeley, CA: University of California Press, Berkeley, 1949.

Dickason, David G. "The Nineteenth-Century Indo-American Ice Trade: An Hyperborean Epic," *Modern Asian Studies* 25, pp. 53–89. 1991.

Gardiner, Robert H. *Early Recollections of Robert Hallowell Gardiner, 1782–1864.* Hallowell, ME: White & Horne Company, 1936.

Kistler, Linda H., Clairmont P. Carter, and Brackston Hinchey. "Planning and Control in the 19th Century Ice Trade," *The Accounting Historians Journal* 11, pp. 19–30. 1984.

Pearson, Henry G. "Frederic Tudor, Ice King," *Proceedings of the Massachusetts Historical Society* 65, pp. 169–215. 1936.

Seaburg, Carl and Stanley Paterson. *The Ice King: Frederic Tudor and His Circle* Boston, MA: Massachusetts Historical Society, 2003.

Weightman, Gavin. *The Frozen-Water Trade: A True Story*. New York: Hyperion, 2003.

A Museum of Finance

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had both, and even now they are lacking in many countries.

The Role of Finance Museums

The power of finance is clear to those of us who study it, both historically and in today's world. Yet many people are unaware of it or don't fully understand it. This provides the rationale for a museum of finance. Through artifacts brought to life with written and oral explanations, a museum can use visual stimulation to arouse curiosity and teach important historical lessons. Some examples may illustrate the point.

In 2009, the Museum had an exhibit featuring the world's oldest extant share of stock of a publicly-traded company, the Dutch East India Company. It was lent by its Dutch owners. The company was founded in 1602, and the share dated to that decade. The company sponsored Henry Hudson's "discovery" of New York harbor and the river subsequently named after him. For New Yorkers and others, it was a great way to relate the city's history to financial developments in Europe long ago.

The Museum's permanent exhibits feature two early US government bonds. One dates to 1792 and is registered in the name of George Washington, whose signature appears on it. It was "assumed debt," meaning that Washington had turned in some Virginia state debt he owned for US government debt as a part of Alexander Hamilton's plan for the assumption of state debts by the federal government in 1791. This is an entry for teaching about Hamilton's financial innovations at the beginning of US history, which spurred both economic growth and our two-party system when Thomas Jefferson and James Madison organized a political party to resist Hamilton's innovations.

The other early bond is a Louisiana 6% of 1803. Almost every American knows of the Louisiana Purchase of that year. But how was the Purchase actually made? The US government issued $11.25 million of bonds maturing some 15 years later, of which the one on display is an example. The bonds were taken to Europe by Barings, London investment bankers, and sold by them and other banking houses to European investors. The proceeds were paid to France so that the French emperor, Napoleon Bonaparte, had more money to wage his wars in Europe. The transaction, the largest such international financial transaction in history to that time, doubled the geographical size of the US. Our country had been a bankrupt nation in 1788, but by 1803, thanks to Hamilton, it had one of the best credit ratings in the world. That is why France was to be paid in US bonds. The bonds were easily marketable to European investors, illustrating the power of finance.

Perhaps you have heard the phrase, "Not worth a Continental." It refers to the paper money issued to such an extent by Congress during the War of Independence that it lost almost all of its value. You can see one and learn the story in the Museum's permanent "Money: A History" exhibit. Have you heard of the greenbacks that were similarly issued by Abraham Lincoln's Union government during the Civil War, and similarly lost value? You can see greenbacks and learn their story at the Museum.

Did you ever see a check for $642,600,000? Investment bankers wrote such a check to the Ford Foundation in 1956, after they had sold a large block of the Foundation's stock in the Ford Motor Company to the public. Henry Ford ran a private company, and when he died in 1947, he left most of his stock to the Ford Foundation. By selling the block of stock in 1956, the Foundation diversified its assets and increased its philanthropic activities, while the Ford Motor Company became a public company in which anyone could invest. You can see that check at the Museum. A number of stories about the power of finance can be conveyed on the basis of it.

But one shouldn't have to come to New York to view these artifacts of financial history and learn the stories that they tell. Modern information technologies can allow us to put these and other treasures, and their stories, online. Then anyone in the world with access to the Internet can see and learn from them. It means more, of course, to see the real thing up close. When I was young, I saw many images of the Mona Lisa and the Venus de Milo, but they meant much more when I later viewed the actual masterpieces at the Louvre in Paris. So our online plans when realized will not be a substitute for a visit to 48 Wall Street, as much as an invitation to make that visit.

Using artifacts from financial history and exhibits based on them to increase the public's understanding of the power of finance is just one aspect of the Museum's mission. Financial education broadly construed is just as important. The Museum does that for adults with its evening lecture series featuring prominent speakers from the financial and academic worlds. Its "Lunch and Learn" midday events give authors of recent books on finance and financial history an opportunity to explain their work. The Museum Finance Academy uses the Museum's own and Wall Street's resources to educate high school students about the power of finance and to increase their personal financial literacy.

In 1987, in the wake of the stock market crash of October 19 that year, Wall Street and the US financial system were under a cloud. Some feared it was 1929 all over again and expected a depression to follow. In those dark days, stockbroker John Herzog, knowing of the power of finance, decided to dedicate his fine collection of historical artifacts, documents and financial instruments to teaching others about it.

It was a splendid vision, one that resulted in the Museum of American Finance. Thanks to John Herzog's vision, the power of finance is more appreciated now, a quarter century later, than it was then. But much remains to be done to make more people aware of it. As it looks back, the Museum looks forward to meeting this challenge. **$**

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